

WEEK
AGO

BUSINESS WEEK

YEAR
AGO

START
OF WAR
1939



Food—for the war now and the world afterwards: the problem of Hot Springs (page 15)

BUSINESS
WEEK
DEX

PUBLISHED BY THE MCGRAW-HILL PUBLISHING COMPANY





The Monument to a Shorter War

NOBODY WANTED the Warner & Swasey building at the southeast corner of Carnegie and 55th Street, Cleveland. The government (whose money built it) didn't want it; they're not in the landlord business. We didn't want it, for we have more buildings now, built with our own money to increase war production, than we will ever again be able to use to make turret lathes.

But that building has already shortened the war—by 1,600 turret lathes.

Turret lathes are absolutely necessary for almost everything needed to win this war—airplanes, tanks, shells, guns. And 1,600 Warner & Swasey Turret Lathes are right now turning out those weapons of war—1,600 turret lathes that would not have been built by this time—1,600 turret lathes that without that building would not have been built until months from now.

That means planes, tanks, guns and shells would not have been made until months from now. And *that* means the

war would have lasted just that much longer. Therefore this building shortened the war by just that much—which means American lives will be saved.

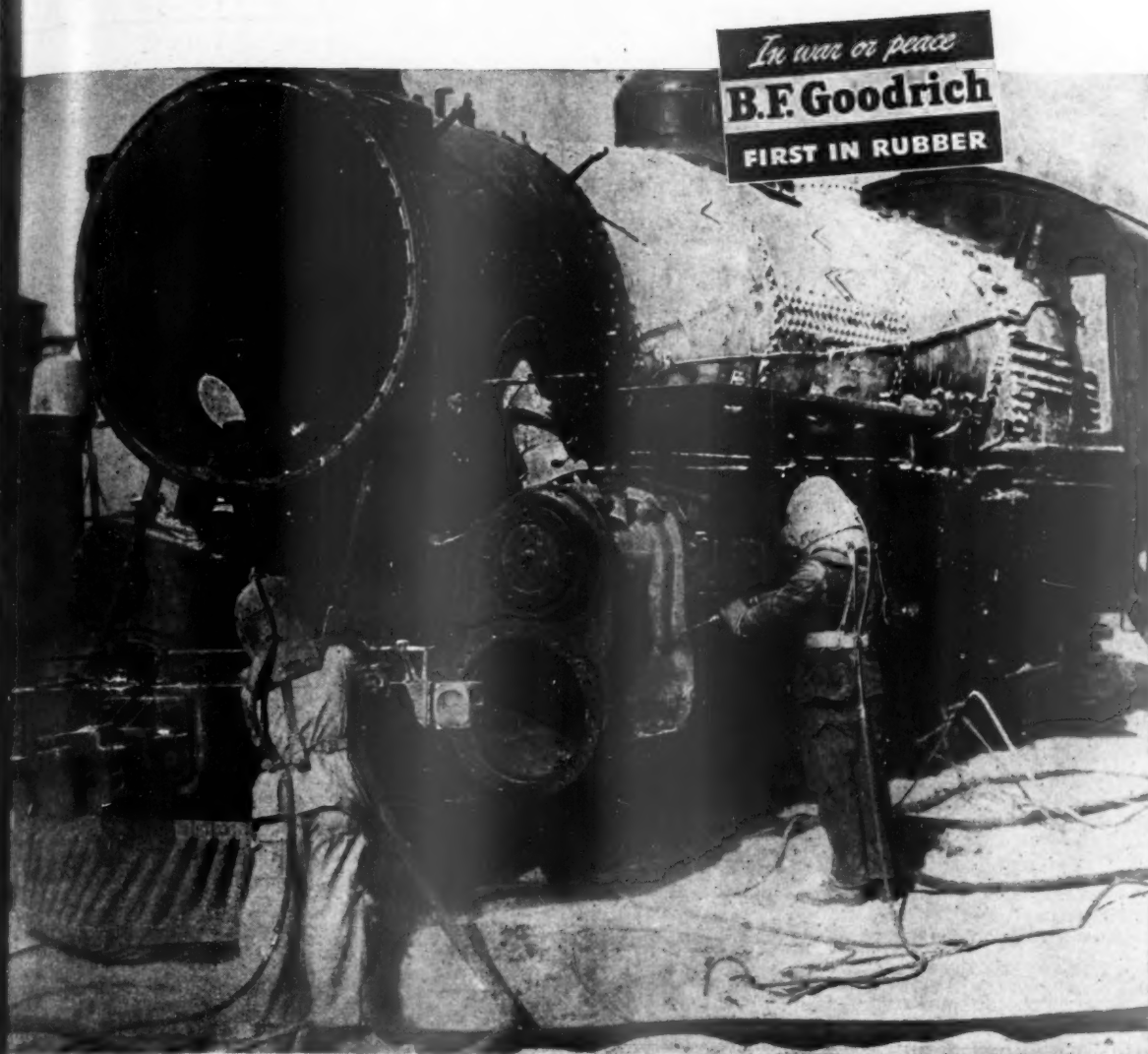
Could there possibly be a finer investment of money?

It may be that this building will be vacant when the war is over. It may be that never again will it roar with the noise of production it is making now.

But even if, for the rest of your life, you pass a vacant, silent building at southeast Carnegie and 55th Street, never forget that it made possible turret lathes *quickly*, which in turn made possible planes and tanks and guns and shells *in time* to save American lives.

That's enough glory for any building ... that's enough return on any investment.





Workmen claimed the hose was haunted


A typical example of B. F. Goodrich development in rubber

WORKERS in a southern railroad yard swore the sandblast hose they were using was haunted. Static electricity, generated by sand rushing through the smooth lining of the hose, could build up until it jumped to the ground—through the workman. Coming from nowhere, without benefit of connecting wires, this was too much for the superstitious workers who swore the hose was bewitched. Some of the workers flatly refused to touch it. In other railroad yards, in shipyards and foundries, everywhere sandblasting is done, the same thing was happen-

ing—workmen were jolted, knocked down, and the hose was often punctured by jumping sparks. Time and money were lost.

B. F. Goodrich had developed an antistatic rubber for V-belts used in powder plants—a rubber that actually conducts electricity and lets it flow harmlessly away to the ground.

B. F. Goodrich engineers heard of the sandblast problem. They went to work to develop a hose using the new conductive rubber. The result was the new B. F. Goodrich *antistatic* sandblast hose, which retains all the low-cost,

long-life advantages of the original hose, but lets static flow harmlessly away, and gives the user no shock nor jolt. This development is typical of the way B. F. Goodrich research can apply to one problem the knowledge gained in solving another. If there is some hard-to-solve problem in your plant, B. F. Goodrich experience with natural or synthetic rubber may help you find the solution. Write The B. F. Goodrich Co., Industrial Products Division, Akron, Ohio. 

B.F. Goodrich
RUBBER and SYNTHETIC products

Pop's doing "K.P."
too!



There's good reason why dad does "K.P." today. He's cheerfully willing to do without domestic help for the duration. He knows it releases more hands to forge the tools of war.

Time was when doing menial things might lose a man some standing with his neighbors. But no more. Today, you'll find the "Mister" gladly doing chores. Yes, gladly, for besides knowing that he frees labor for essential war industries, he finds that chores are fun.

Here at SKF social position isn't bothering us much either. What fascinates us most is seeing a steel torrent of anti-friction bearings rolling toward the Axis, hell-bent for action.



SKF
BALL AND ROLLER
BEARINGS.



SKF INDUSTRIES, INC., PHILA., PA.

BUSINESS WEEK

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BUSINESS WEEK • MAY 15 • NUMBER 1
(with which is combined The Annalist and the Magazine of Business). Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw, Founder and Honorary Chairman. Publication office, 99-129 North Broadway, Albany, New York. EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42ND ST., NEW YORK, N. Y. James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President; B. Putnam, Treasurer; J. A. Gerardi, Secretary. Allow ten days for change of address. About subscriptions address: Director of Circulation, Business Week, 330 W. 42nd Street, New York, N. Y. Subscription rates—United States, Mexico, and Central and South American countries \$5.00 year. Canada \$5.50 for a year. Entered as second class matter December 4, 1936 at the Post Office at Albany, N. Y., under the Act of March 1879. Return postage guaranteed. Printed U. S. A. Copyright 1943 by the McGraw-Hill Publishing Company, Inc.

WASHINGTON BULLETIN

WHAT THE WASHINGTON NEWS MEANS TO MANAGEMENT

Subsidies—or Else

Now it's squarely up to President Roosevelt. If he can't sell Congress the subsidies that are supposed to keep prices from rising, the wage-price stabilization program is bankrupt. There are no more economic white rabbits to pull out of the hat, and this one may be too woolly to be peddled even by the veteran in the White House.

How Program Would Work

Here is what the new subsidy sales talk amounts to: To counterbalance runaway farm prices, Reconstruction Finance Corp. would give OPA an initial \$400,000,000 to pay to primary food distributors. That would peg prices firmly at the initial stages of distribution. Retail prices, it is argued, would remain equally steady. With the cost of living stabilized, unions—including John L. Lewis' United Mine Workers—would be supposed to forget about demands for higher pay rates. The vicious spiral of wage-price increases would be broken, and chances of a wild expansion in the inflationary gap lessened.

However, just to satisfy John L. that the pegged food prices won't be too far out of line with existing wage rates, there would be a slight rollback—3% through subsidies, 1% as a result of the new "community" ceilings (page 97).

Up to Congress

Economists have assured the White House that this program is a humdinger. But they have also warned that the President either gets Congress to deliver—or else. There is no further magic if this program fails.

Congress is ominously silent. It doesn't want John L. to win, but neither does it like the idea of subsidies passed out by RFC-OPA without prior congressional approval.

Aside from wanting to preserve its pride, Congress (especially the farm bloc) feels that subsidies (1) will eventually cost as much as \$5,000,000,000 a year, (2) will produce an awful price-letdown the day they are removed, and (3) will act as a damper on farm prices because the latter can't rise more than the approximate amount of the subsidy.

Three Shots at Subsidies

Congress has three chances to snipe at subsidies. It can hold up OPA's appropriation, which comes due next month (OPA will ask for about \$170,-

000,000). It can add a rider to a pending RFC bill which proposes to increase RFC's borrowing power by \$5,000,000,000. Or it can add a rider to a bill that would boost the Commodity Credit Corp.'s capital by \$1,000,000,000.

No Settlement

White House knows what it's up against, doesn't hope for complete victory. Small-scale subsidies (out of the initial \$400,000,000) will probably be passed out, but big-scale measures look dubious.

BREACH IN THE LINE

Economic Stabilization Director James F. Byrnes made the biggest breach to date in Administration wage policy based on the hold-the-line order when he acceded to a request of the National War Labor Board for more authority. Byrnes did not restore NWLB's full power to correct "inequalities"—circumstances which the board cited to justify most of the wage awards that exceeded the Little Steel ceiling—but he did give that agency permission to eliminate "inequities and order adjustments necessary to aid in the effective prosecution of the war."

The new latitude for NWLB will allow it to correct out-of-line wage situations within a plant—such matters as equal pay for women, as an example—but will not license it to adjust differentials existing between plants or industries. Of even more political consequence, however, was a corollary grant of authority by Byrnes which will enable the board to set regional standards of pay for particular lines of work, declaring rates below these levels to be substandard and therefore eligible for a boost. How much of a loophole "prosecuting the war effectively" may become remains to be determined. It could be big enough for John L. Lewis to crawl through.

The Byrnes appeasement move is counted on to keep A.F.L. and C.I.O. on the board and to prevent the union executive committees from launching a sharp attack on the Administration at their meetings next week, as some had expected.

Best guess is that subsidies will merely complicate further the union vs. government fracas. The government may win a slightly longer breathing spell but no settlement.

London Is Nerve Center

Despite the fact that Churchill has brought a full technical staff of both Army and Navy leaders for this week's conference, don't visualize Washington as the nerve center of the coming "battle for Europe."

Two years of experimentation have proved to Americans and British alike that London is a far more effective headquarters for the supervision of all European operations. It can be revealed now that the British are stripping their Washington staffs of key men, and that the United States is speedily bolstering the technical staff of its London Embassy. For two months, every form of transport to Britain has been crowded with these specialists rushing to headquarters to complete plans for the summer's "big push."

Washington's Job

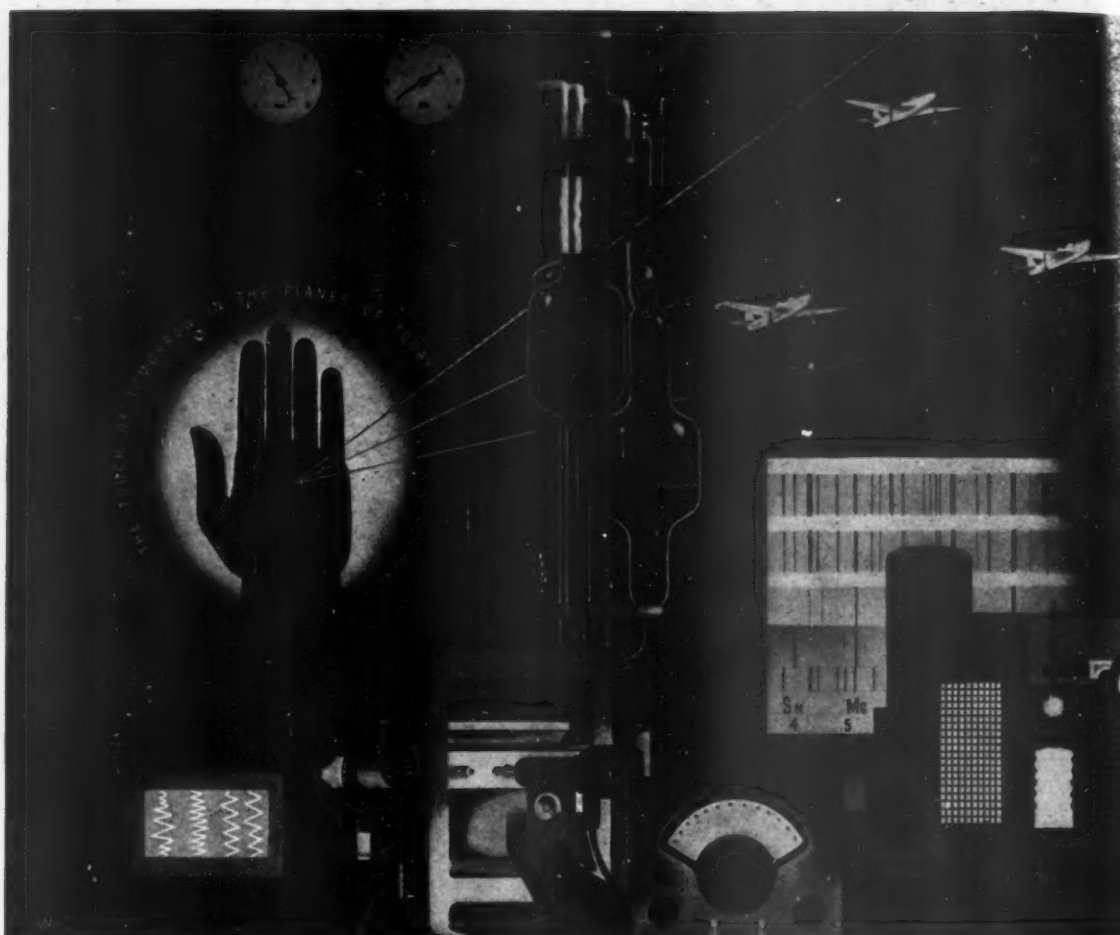
Roosevelt is doing more than check invasion plans with Churchill. Washington is being made responsible for supply lines to the Middle East (including Russia) and India, as well as for the entire scheme of operations in the Pacific. This accounts for the Indians in the Churchill party and adds special significance to the proposed Roosevelt-Stalin meeting.

Peace Bridge for War Plants

If you are a "key man" in Washington, you are likely to be visited by a White House representative with a commission to sound out opinion on a scheme for postwar governmental operation of government-financed war plants. The plan contemplates conversion of such plants to consumer goods production.

There is talk of converting munitions plants into furniture factories, for example, the furniture to be sold abroad on lend-lease (if that isn't branded as dumping) and at home on a stamp plan to get it into the hands of the "lower third" at lower than going prices. Such sale at home would be modeled after depression distribution of food on the familiar food-stamp plan.

Selling-points are (1) that it will pro-



Air Supremacy Starts in the Test Tube

In the birth of a new plane or airplane engine, the materials to be used—and the behavior of the very atoms which compose these materials—must be closely examined and understood.

In developing Fairchild Ranger aircraft engines, Fairchild engineers make use of scientific instruments and techniques seldom found in industrial laboratories. Their purpose is to assure, by scientific prediction, the most skillful use of materials. These same advanced metallurgical and chemical laboratory facilities control the quality of Ranger materials in the rush of wartime production.

Out of their "test tube" Fairchild engineers evolved the Duramold process by which wood can be moulded to the most complex wing and fuselage curvatures. This gave the United

Nations a practical substitute for aluminum with which to build its planes.

Thousands of new pilots and crews had to be trained—quickly. That meant training planes in great quantity... planes with many of the characteristics of actual combat ships. The now famous Fairchild primary, crew, bomber and gunnery trainers filled the need. They, too, had to survive the test of laboratory analysis.

These achievements, born in large part in Fairchild laboratories, are helping the United Nations to win supremacy in the air. There are more such achievements still "in the test tube." Like their predecessors, they will bear the Fairchild "touch of tomorrow"—bringing us a great part of aviation's future—today, when we need it most.

"ON THE BEAM"

"The United States does not consider it a sacrifice to do all one can, to give one's best to our Nation, when the Nation is fighting for its existence and its future life. Rather, it is a privilege."

—President Roosevelt's address to the Nation
Dec. 9, 1941

Buy More War Bonds and Stamps!



Ranger Aircraft Engines Division, Farmingdale, L. I.

ENGINE AND AIRPLANE CORPORATION
30 ROCKEFELLER PLAZA, NEW YORK

Fairchild Aircraft Division, Hagerstown, Md. . . . Burlington, N. C.

Duramold Division, New York, N. Y.

factory jobs for a postwar full-employment program, and (2) that it will set a government yardstick on industrial profits in the lines invaded. The scheme is getting a cold reception from all business men approached. More interesting, the President will soon receive an advisory memorandum expressing opposition to the plan by an important group of labor representatives.

eeper Cut in Construction

WPB is twisting the screw one turn tighter on expansion of manufacturing capacity. Ever since last summer, there has been strong pressure to prevent the starting up of new factories; last fall review committees were set up to screen projects now under way and to pass on new proposals, and it was hoped that this would cut the 1943 program by about three billions. Actually, the cuts have only amounted to about half that. The present plan is to set up another review committee with more power, more dynamic personnel. It's intended to eliminate about half the five billions of new plant projects that are now under construction or scheduled. The cut applies only to fabricating plants. Raw materials—metals, gasoline, rubber, etc.—are still being expanded. Past experience gives no ground for belief that WPB this time will be able to cut as deeply as it would like, but the contraction of the machine tool and construction industries will be hastened. C.I.O., apparently guessing what was coming, summoned to Washington its United Electrical, Radio, and Machine Workers, which has jurisdiction over the few machine tool plants not organized by the A.F.L. machinists, and formulated a quick program for screening tool orders and converting to direct war goods—all under the auspices of a labor-management setup.

Keeping Fathers from Draft

With fathers due to start going into the Army in July or August, Selective Service is now exploring the possibilities of protecting as many of them as possible with occupational deferments. Ideally, all of the 1,700,000 men who by the end of the year will have occupational deferments and all of the 1,500,000 deferred farmers ought to be married men. Obviously, it would be practically impossible to draft a workable regulation to accomplish this. Reliance will be placed on informal instructions to draft boards to be very tough in granting deferments to childless men, to ease on fathers.

Two Methods of Protection

Employers in essential industries already are being asked to file Form 42B for their employees with children under 18 born before Sept. 14, 1942. If this is done, local boards will notify employers before reclassifying the men, give them a chance to apply for deferment.

Selective Service is also delaying permission for local boards to reclassify fathers. In the ordinary course of events, this permission ought to come through about now so that a good batch of fathers will be already classified when the available nonfathers run out. By holding up the permission, Selective

Service forces the boards to comb their occupational deferment files for men to fill their quotas.

McNutt's Job Gets Harder

Fowler Harper's resignation as deputy chairman of the War Manpower Commission brings to a head the most serious single problem facing his boss, Paul V. McNutt. Some degree of labor cooperation is essential to any useful manpower program—with or without a National Service Act.

Yet the increasing stringency of the manpower situation is forcing McNutt, willy-nilly, into moves that effectively

Out on a Limb

Last January, and again in March, Business Week's Washington Bureau presented under this title its judgment on several issues which, in the nature of things, were uncertain. We have not changed our opinion on the following:

No social security legislation will be enacted before the 1944 elections.

Openly or not, the Little Steel wage formula will be a dead letter by July.

The farm bloc will succeed in tossing parity aside or in so altering it that it will not be an obstacle to a further rise in prices. This will come about regardless of the outcome of the coal situation, which is merely holding the issue in abeyance.

There will be no National Service Act.

Price Administrator Prentiss M. Brown will last (unless OPA itself cracks up).

Gasoline for civilians on the East Coast will get tighter and tighter. It will disappear altogether for a few days when the invasion of Europe starts.

Cost of living will rise another 10% by the end of the year. (That was our January prediction; in March, we upped it to 15%, and this still looks solid as measured by the official index. Actual rise will be considerably greater than that registered by the index.)

Previous predictions that already have become fact or that now are certainties include the following:

The \$25,000 salary ceiling came off.

Claude R. Wickard has lost his job as food administrator.

No important legislative changes have been made in the draft. Fathers will start going by midsummer (looks like August).

Consumer goods will get scarcer throughout the year except for repair parts; permitted increases in production are failing to balance depletion in inventories. In 1944, supplies will begin

to increase. (Now it looks as though it will be late '44.)

Food will get scarcer; all essentials except possibly breadstuffs will be rationed by the end of the year.

Don't worry about tires. The present rather favorable situation will become no worse.

As of today, we think the odds on the following are better than even-money bets:

Labor Day will have seen a wave of pay increases.

No antistrike legislation will become law.

The Ruml plan will be enacted with 100% forgiveness of 1942 taxes except for windfall restrictions.

There will be only moderate increases in individual income tax rates, practically none in corporate rates.

There will be no general sales tax, but luxury taxes will be greatly extended.

Provision will be made in the next tax bill for setting up substantial postwar conversion reserves.

Individual income payments will total \$150,000,000,000 this year—double 1940.

Congress will not repeal the renegotiation of war contract profits law.

There will be no rationing of civilian clothing this year.

Discount discussions of elaborate government postwar plans; none will come to anything.

War spending, now \$7,000,000,000 a month, will reach a peak just over \$8,000,000,000 by the year end. Aircraft production, now near 7,000, will approach 10,000 a month; merchant ship output, now about 150 a month, will go to 180-200; tank production will stick close to 3,000 a month for the rest of the year. Construction and machine tools will continue to decline.

The war will be run from now until victory with pretty much the same crew now on the job in Washington.

Protection FOR WELDERS' EYES



Among more than 300 different styles of Willson eye protective and respiratory devices are Welding Helmets and Welding Goggles for every type of operation. Fitted with Willson Weld Glass they give the welders' eyes unusually high protection against the harmful infra-red and ultra-violet rays. You are invited to consult your local Willson Safety Service Representative for complete information; or please feel free to write direct to us.

GOGGLES • RESPIRATORS • GAS MASKS • HELMETS

WILLSON
DOUBLE
PRODUCTS, INCORPORATED
READING, PA. U.S.A.

WASHINGTON BULLETIN (Continued)

alienate labor. Prime example is the job-freeze order of last month, forced on McNutt as part of the President's hold-the-line policy. Labor opposition to this order was so strong—extending to the point of resignations from local labor management committees—that McNutt had to retreat from the toughest part of the order (BW—May 8'43, p14).

This developing crisis left Harper in the middle. Ever since McNutt came to Washington from the Philippines, it has been Harper's rôle to sell him to the New Dealers and to the unions. Inside WMC, Harper worked with the union representatives on the labor-management policy committee to block any strict regimentation of the labor market.

But the tide was against him. Growing importance of technical problems, like manning tables, occupational deferments, and industry classifications, strengthened the position of the executive director, Lawrence A. Appley, a personnel technician from industry. Last March, Appley engineered a reorganization of the policy committee into a tripartite body—labor-management-agriculture—in which the unions were a minority.

The union crowd lost faith in Harper as the man to protect their interests in WMC. What relations they maintained with the commission, they routed through Appley, whom they saw to be in the ascendancy.

Last straw was the issue made of exemptions from the 48-hour week in steel. Industry insisted it couldn't be held to the order in the case of products (pipe, shapes, etc.) where demand is falling off. WMC people were inclined to agree, but the steelworkers were bitter. They had expected to get a guaranteed work-week out of the manpower move, but they are now convinced that McNutt has swung to the right.

NLRB Rejects Foreman Union

The movement to unionize foremen got a body blow from the National Labor Relations Board's 2-1 decision to exclude supervisory employees from the provisions of the Wagner Act. In deciding the Maryland Drydock Co. case this week, NLRB reversed a previous ruling which extended the act's coverage to foremen of coal mines.

Although a serious setback to the burgeoning Foreman's Association of America (BW—Apr. 17'43, p102), the board's action will by no means halt the organization of industrial supervisors. No longer protected by the Wagner Act against discriminatory discharge or other forms of company discouragement, foreman unionization will continue under

the same hazards that organized labor faced before the act was passed.

The F.A.A. now claims over 18,000 members and is going ahead with plans to open an eastern office in Baltimore and a West Coast one in San Diego. National headquarters will remain in Detroit.

Civilian Supply Wrangle

Now that the Maloney bill to create a separate civilian supply agency has passed the Senate (page 14), Pepper Kilgore-Tolan supporters in the House want to revamp it into a measure that will all the war agencies into a superboard.

WPB would be the nucleus. All existing war czars, plus the proposed new civilian administrator and the military chiefs, would sit on the WPB board and formulate a "war mobilization program" to cover manpower and material allotments.

Directives of this board would govern the individual agencies to which they apply. The President and Economic Stabilization Director James F. Byrnes would be cut out of this setup completely instead of being made referee over civilian supply as proposed in the Maloney bill.

Chances of passing the Maloney bill in the House with the amendments proposed by the Pepper group are obscure. Bickering over Pepper's or similar ride will stall the measure, which had been sledding through the Senate.

Capital Gains (and Losses)

To show how well it is adhering to the President's hold-the-line order, OPA has added a new paragraph to all price releases that announce increases in price ceilings. It reads: "Since production is almost entirely limited to war uses, the action will not affect the cost of living."

Donald Nelson, anxious to build morale at WPB, personally sponsors the red, white, and blue lapel-button employees are now sporting. He is circulating an employee questionnaire (sample question: "Are you having a good time in Washington?").

Corrington Gill, a former deputy commissioner of WPA, is heading up an ambitious effort to iron out clashing manpower, housing, and municipal public works programs in war industry centers. Created by Presidential order, Gill's interdepartmental committee is empowered to send a trouble-shooter into any congested area.

—Business Week
Washington Bureau

FIGURES OF THE WEEK

	† Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
THE INDEX (see chart below)	*204.5	†203.5	203.7	190.5	179.0
PRODUCTION					
Steel Ingot Operations (% of capacity)	99.4	98.2	98.8	99.6	99.6
Production of Automobiles and Trucks	18,405	18,990	18,080	20,180	21,450
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	\$12,762	\$12,873	\$13,456	\$27,605	\$44,228
Electric Power Output (million kilowatt-hours)	3,904	3,867	3,882	3,762	3,365
Crude Oil (daily average, 1,000 bbls.)	4,021	3,919	3,949	3,838	3,544
Bituminous Coal (daily average, 1,000 tons)	1,583	†1,973	2,027	1,937	1,856
TRADE					
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	80	79	81	87	83
All Other Carloadings (daily average, 1,000 cars)	51	53	52	61	60
Money in Circulation (Wednesday series, millions)	\$16,683	\$16,593	\$16,353	\$14,312	\$11,845
Department Store Sales (change from same week of preceding year)	-5%	+29%	-7%	+15%	+8%
Business Failures (Dun & Bradstreet, number)	64	52	92	136	216
PRICES (Average for the week)					
Spot Commodity Index (Moody's, Dec. 31, 1931 = 100)	246.0	246.3	247.3	233.2	232.1
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	159.9	159.6	159.9	155.6	153.7
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	207.7	208.0	208.3	188.0	186.1
Finished Steel Composite (Steel, ton)	\$56.73	\$56.73	\$56.73	\$56.73	\$56.73
Scrap Steel Composite (Iron Age, ton)	\$19.17	\$19.17	\$19.17	\$19.17	\$19.17
Copper (electrolytic, Connecticut Valley, lb.)	12.00¢	12.00¢	12.00¢	12.00¢	12.00¢
Wheat (No. 2, hard winter, Kansas City, bu.)	\$1.39	\$1.38	\$1.39	\$1.22	\$1.17
Sugar (raw, delivered New York, lb.)	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.)	21.09¢	21.14¢	21.15¢	19.43¢	20.20¢
Wool Tops (New York, lb.)	\$1.320	\$1.335	\$1.322	\$1.238	\$1.270
Rubber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
FINANCE					
90 Stocks, Price Index (Standard & Poor's Corp.)	94.6	93.2	89.3	76.2	62.8
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.92%	3.93%	3.97%	4.23%	4.26%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.75%	2.75%	2.76%	2.79%	2.84%
U. S. Bond Yield (average of all taxable issues due or callable after twelve years)	2.31%	2.31%	2.32%	2.33%	2.37%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	‡-‡%	‡-‡%	‡-‡%	‡-‡%	‡%
BANKING (Millions of dollars)					
Demand Deposits Adjusted, reporting member banks	29,528	30,098	32,955	28,593	24,854
Total Loans and Investments, reporting member banks	46,108	45,772	41,646	37,924	31,135
Commercial and Agricultural Loans, reporting member banks	5,607	5,645	5,610	6,314	6,649
Securities Loans, reporting member banks	2,203	2,156	1,008	1,034	849
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	32,331	31,909	28,998	24,120	16,471
Other Securities Held, reporting member banks	3,103	3,226	3,213	3,359	3,656
Excess Reserves, all member banks (Wednesday series)	2,130	2,280	1,980	2,118	2,691
Total Federal Reserve Credit Outstanding (Wednesday series)	6,850	6,655	6,848	4,680	2,572

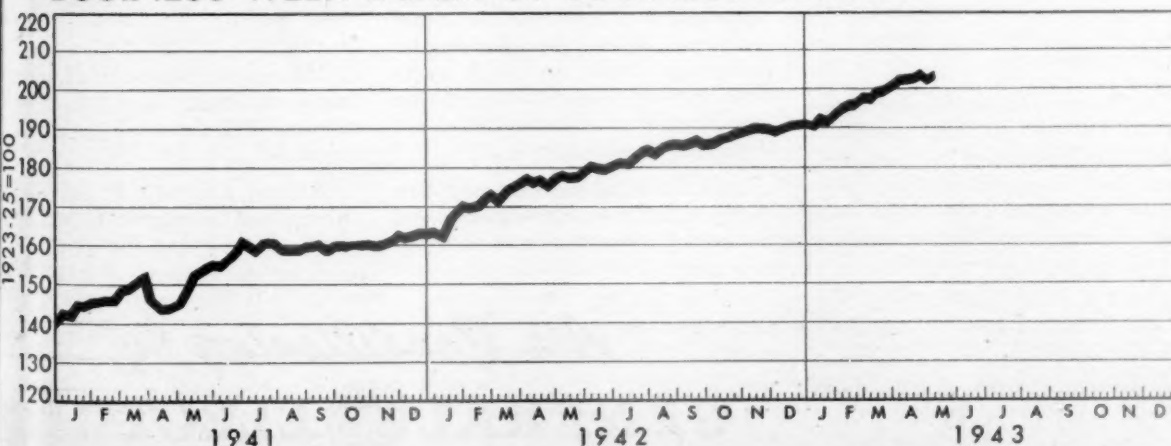
Preliminary, week ended May 8th.

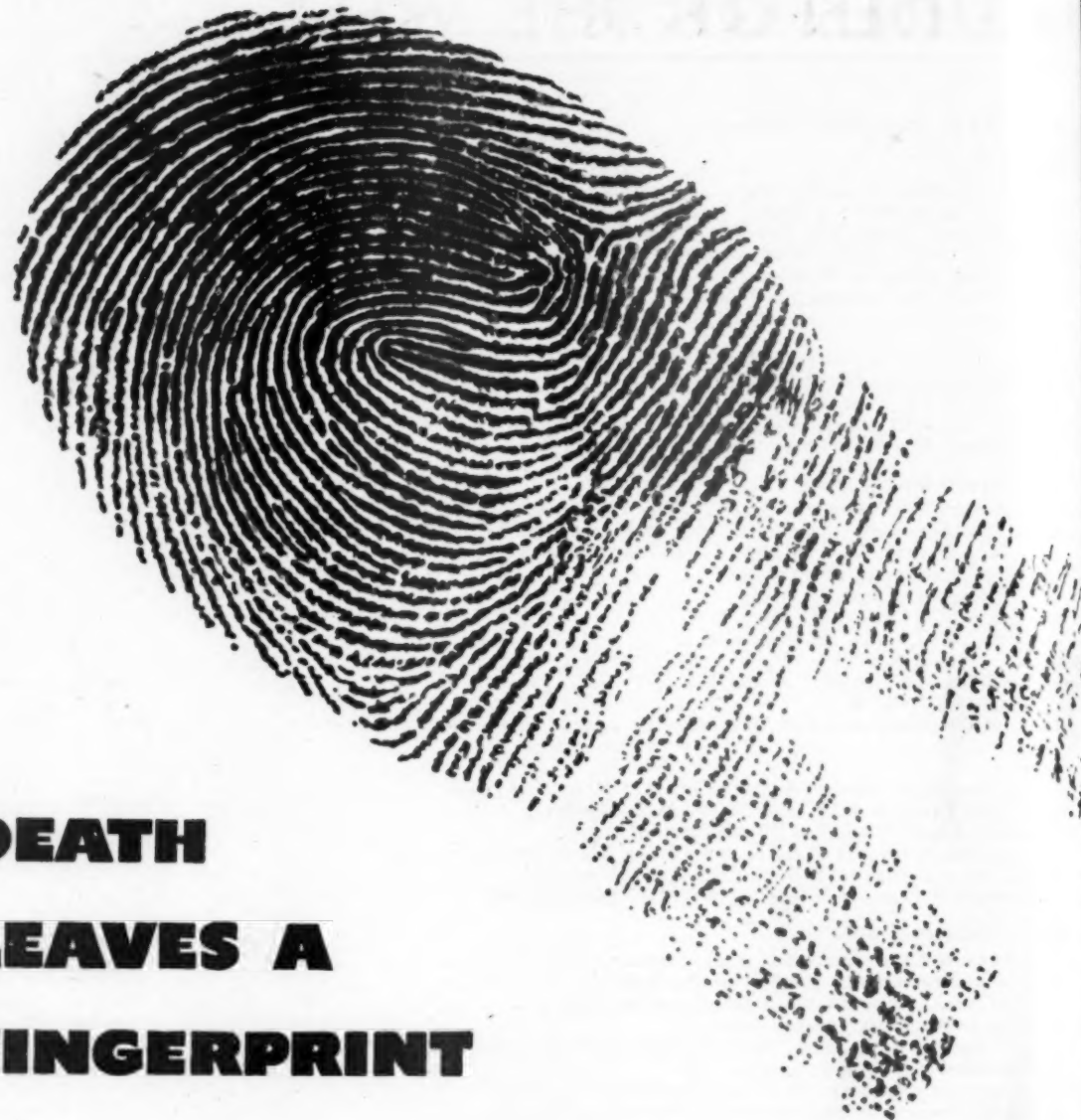
† Revised

Ceiling fixed by government.

‡ Date for "Latest Week" on each series on request.

BUSINESS WEEK INDEX OF BUSINESS ACTIVITY





DEATH LEAVES A FINGERPRINT

Probably it was hot and humid in the assembly room...that day when warm, perspiring fingers accidentally touched a tiny, needle-pointed shaft. But the fingerprint remained... acid, corrosive...

A saboteur—this accidental fingerprint? Yes—for on a later day that tiny part, weakened by corrosion, may fail—in a submarine depth-gauge, an airplane altimeter, or in any of scores of delicate military

instruments. And just because of a fingerprint, a man may die.

* * *

ANOTHER WAR JOB FOR AIR CONDITIONING. Where precision instruments are made, on which men's lives depend, air conditioning reduces perspiration... filters out dust... helps speed output.

And this is but one example of how General Electric air conditioning and industrial refrigeration may serve the

war effort. To meet the exacting requirements of these wartime applications, General Electric is producing equipment that is highly efficient... flexible... compact.

When peace comes, this improved air conditioning equipment — by General Electric—will be available to all.

General Electric Co., Air Conditioning and Commercial Refrigeration Dept., Division 436, Bloomfield, N.J.

Air Conditioning by
GENERAL  ELECTRIC

THE OUTLOOK

We're Short of the Goals

Government's crop report emphasizes fact that farmers can't come up to their quotas; manufacture of war goods also is behind schedule, but the news on ships is all to the good.

The nation this week simply sat back and awaited the answers to key war and inflation questions. Both have passed into the stage of smoke-filled backroom decision. With victory won in Tunisia, Churchill now in Washington, and Hitler's headquarters reportedly shifted to the west, the next steps in the war obviously are in the making. Likewise, we can see busy-bee OPA's simplified ceilings, black market prosecutions, and retail rollbacks as the Administration's countermeasures to wage demands; outcome of the inflation crisis, notably in coal, now rests with the opposing top leaders.

Weather Cuts Food

Meanwhile, the new Dept. of Agriculture weather report made unhappy reading for American food conferees. Estimates of the 1943 truck crop have been pared to 14% below 1942 output. May 1 pasture condition was 6% poorer than a year ago. And for the first time in many months, milk production in April ran 1% below last year's.

The winter wheat estimate came to 515 million bushels—45 million lower than a month ago, 110 million lower than in December, and 190 million lower than 1942's bumper harvest. Further serious damage now is threatened by floods in midwest states. Earlier estimates had put 1943 wheat consumption 50% above production; this was to cut stockpiles by one-third, or 350 million bushels (BW—Apr.17'43,p117). Each new drop in output aggravates the disparity.

Feed Problem's Significance

Of course, this does not bode a bread shortage. But wheat illustrates what is happening on the food front generally. To support increased meat, dairy, and poultry production, we are drawing upon all our feed stocks—corn, hay, sorghums, oats, barley, as well as wheat. Already there are plans to limit the expansion in livestock production—notably hogs—and if weather runs as strongly against spring-sown crops as it is running now against winter wheat, animals for slaughter a year from now will be a lot fewer than we hope.

It also is now evident that war production schedules cannot be met. The March munitions report was the first

disclosure (BW—May8'43,p13). Not only was first-quarter output only 18% of the 1943 program, but also, it ran only 12% higher than the last quarter of 1942. Even if quarter-to-quarter advances now run as high as 10%, the year's production will fall 15% behind the program. More probably, we shall fall 20% short.

Ship Program Gains

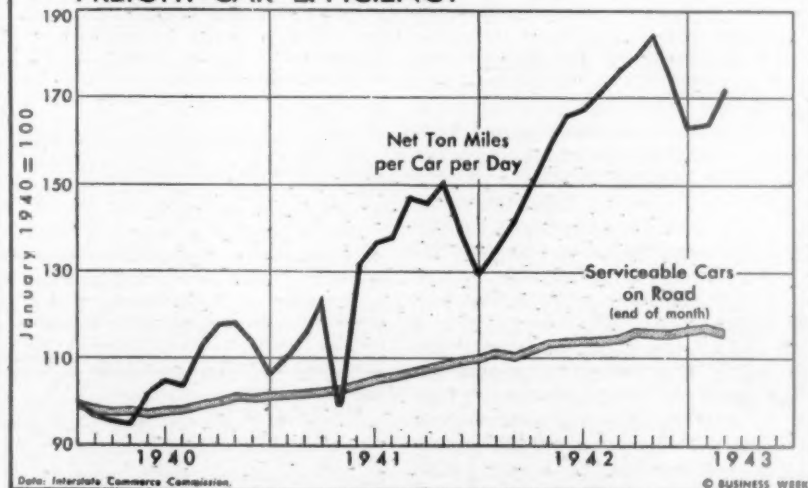
Not only will second-half 1943 gains in armament be relatively moderate, but also total industrial production will tend to flatten out; the Business Week Index, now heading to 210 at midyear as against roughly 190 last December, probably will not rise above 220 by the year-end.

Though we may produce less food

and arms than we hoped, our capacity to move these weapons of total war to the fronts will rise—markedly. The battle of ships turned in our favor in the second half of 1942. But, we added only 5% to our ship supply then. Thus far this year we have done better; only March was a relatively black month for sinkings, whereas shipbuilding has soared. With the gain in shipping that will come from an opening of the Mediterranean, with a further advance in ship construction, and with another reduction in sinkings due to more escort-vessel and aircraft protection, we are likely to see a 25% increase in total United Nations shipping capacity between June and December.

We cannot yet know whether that will be sufficient to carry to the fronts all the arms we can produce—any more than we can know what the 15% or 20% deficiency of munitions output relative to schedules will mean for the strategic situation on the fronts. But it's clear that there will be a greater lend-lease drain on food and other civilian supply—and also less danger of munitions piling up in this country—than if

IN THE OUTLOOK:
FREIGHT-CAR EFFICIENCY



Can the railroads deliver the goods? That's still a key question for the war effort. To get the answer, it is much more important to determine the use to which each freight car can be put than it is to know the number of cars. Thus, though the 5% addition in cars since last year has been essential to break key bottlenecks, car efficiency is up 20%. In normal times, of course, efficiency increases just as soon as the roads find additional business for their

under-utilized equipment. But for two years, while transportation experts wondered if the limit of per-car ton-miles had not already been reached, government, shippers, and carriers all cooperated to load cars heavier and faster for longer hauls, attaining top efficiency during autumn peaks. But past gains, far from denying limits to car capacity, tractive power, and handling speed, rather imply that new gains will come smaller—and harder.

the battle of ships were running less well.

But, while more ships mean a drain on domestic resources, they also may partially compensate that drain; they can bring in just that much more goods on return trips, and a greater number of ships might even be spared for trade with neutrals. The ores, foods, fibers, and other materials we can import add just that much to the nation's production—and consumption—potential.

There Are Limits

Dearth of ships for regular commercial lanes long ago put us on coffee and sugar rations, whereas war theater bottoms filled with Australian wool have enabled us to expand output of civilian clothes. Yet there are some sources of supply that we can't tap, no matter how many ships we build, as the synthetic rubber program constantly reminds us.

Actually, the improvement may have already begun. Whereas imports in the last nine months of 1942—after we were cut off from the Far East—were 25% below the same 1941 period, the total in January, February, and March of this year was within 3% of the 1941 first quarter and within 9% of the 1942.

Plan for Civilians

Hope is held for enlarging supplies of consumer goods by producing more raw materials, but critics doubt feasibility.

The civilian supply situation has shown so little recent improvement that a campaign is being talked up in Washington to put more emphasis on the production of raw materials. Still pretty nebulous, the new plan would mean allocation of additional manpower and facilities for the sinking of mines and erection of first-stage fabricating plants. Munitions production would have to be curtailed by perhaps 10%, but proponents of the plan say that this is a small premium to pay for insurance of civilian morale in the event of a long war.

● **Hope for More Metals**—The less-than-homogeneous group advocating this plan (certain members of WPB, the Senate Small Business Committee, and statisticians from such agencies as the Dept.

of Commerce) is taking heart from a recent statement by Donald Nelson that the fullest possible use is going to be made of domestic ore deposits, including marginal stuff.

On the other hand, less optimistic observers argue that (1) very small additions to aggregate supplies of most scarce metals are to be expected from exploitation of marginal sources; (2) even if larger supplies of critical metals do become available, they won't be turned into civilian goods until 1945 or even 1946; and (3) the civilian economy, in the meantime, will hit rock bottom.

● **Military Still in Saddle**—About hitting rock bottom, there currently is less and less doubt. High hopes that the Maloney bill or WPB's new Office of Consumer Requirements would pry loose a big bonus of steel and similar materials are fading.

Though the Maloney bill (which would set up an independent superagency for civilians) had good sledding through the Senate, the road through the House now looks rougher than a little while ago. Meantime, the new OCR so far shows no disposition to stand up to the military claimant agencies over materials.

● **A Case in Point**—By way of example, OCR statisticians recently calculated that civilians would need 150,000 tons of carbon steel during the coming quarter for durable goods such as cutlery, household utensils, etc. WPB's Requirements Committee knocked this down to 109,000.

OCR argued that 109,000 is too little that the steel is intended to reach retail counters in 1944 when shelf stocks will be very low. Furthermore, OCR insisted, 60% of the so-called civilian production is gobbled up by government agencies anyhow. Yet the OCR claims apparently weren't advanced with much punch; if it wins a compromise allotment of even 140,000 tons, it may call itself awfully lucky.

● **Necessities Losing Out?**—Meantime, there's a growing worry that too many manufacturers are switching from medium-priced to high-priced lines, especially in furniture and fabrics. Everyday necessities are beginning to disappear in favor of luxuries and semiluxuries.

An exact measurement of the "up-trading" isn't possible now, though some clues may be detected in revised estimates of 1943 retail sales. Whereas government officials originally figured the total would be \$49,000,000,000 (BW—Jan.23'43,p43), they are now guessing \$56,000,000,000, only a shade beneath record-breaking 1942. A good portion of that \$7,000,000,000 differential is being attributed to the shift to high-priced lines.

● **Proposed Remedies Stymied**—Alarmed by both the shortage of materials and

Coal Crisis Breeds Antistrike Law

The most important monument to 1943's coal strike may prove to be an amendment to the Selective Service Act—the Connally bill—which has already passed the Senate by a substantial majority. The House is certain to use it as a vehicle for much tougher antiunion legislation, and it will go to committee for compromise. The result may be too strong for the Administration's stomach, evoking a Presidential veto, or there is a remote chance that the House may be realistic enough in the end to settle for the relatively mild Connally measure as a small step in the direction it wants to go.

What is notable, however, is the fact that the Senate, which voted the Connally bill 63-16, for the first time in more than a decade has a majority that will support antistrike legislation. Heretofore, the Senate has always been a dead-end street for all such proposals.

The House, on the other hand, has consistently had an antiunion majority. John L. Lewis has crystallized in Congress the antiunion feeling which for some time now has been apparent at the grass roots (BW—Mar.13'43,p15). Now only the Administration stands between the present pro-labor statutes and an entirely new set of labor laws. And another challenge by Lewis may wash that last barrier away.

As sent to the House, the Connally amendment to the Selective Service Act provides that:

(1) The President may seize any plant manufacturing, producing, or mining articles or materials required by or useful to national defense when there is an interruption of work at that plant which is the result of a labor disturbance.

(2) The government may operate that plant under the same terms and conditions of employment that were in effect when the plant was seized.

(3) The plant's employees or their representatives may apply to the National War Labor Board for a change in wages or conditions of employment, and the board may order such changes as it deems fair and reasonable if they are not in conflict with any act of Congress or any executive order.

(4) It shall be unlawful for any person to coerce, instigate, or induce a strike, lockout, slowdown, or any other work interruption while the plant is operated by the government. Giving directions or guidance for any such work interruption, or providing funds for the payment of strike or unemployment benefits to persons participating in such an interruption is also prohibited. For violation of any of these provisions, the penalty is a fine of not more than \$5,000 or imprisonment for one year.

(5) NWLB can issue subpoenas requiring the attendance at board hearings of witnesses and records that the board may want to question or investigate.

(6) NWLB decisions shall be subject to court review on questions of law.

is tendency toward up-trading, WPB's program committee has suggested wider rationing, more standardization and simplification, and better regulation of distribution. But these suggestions are destined for only a mild response. Neither WPA nor WPB is ration-minded these days, nor does WPB relish the idea of regulating distribution.

For lack of any other policy, opportunism probably will prevail. There'll be more standardization and simplification, but only on a voluntary basis. Lines will be frozen here and there (as already the case with shoes) to prevent up-trading. A few tons of steel will be snagged at opportune moments, but probably only the most severe civilian shortages will be remedied.

Retailers See Sales Aid—Nor will there be as many squawks from merchants as might have been expected a few months ago. Many retailers feel that the trend toward higher-priced goods will bring as many or more dollars, even if unit-sales keep falling off. Without the distributors clamoring loudly in Washington, the civilian's share of critical materials will remain on a bare-bones level.

MORE CAR REPAIRS

Tire and gasoline rationing last year definitely made America car-conscious—but not quite conscious enough to keep abreast of the inevitably accelerated rate of motor debilitation. This is clearly evident in the 50% increase in emergency road service calls, reported by the American Automobile Assn., because of battery failure, ignition difficulties, and starter trouble—breakdowns that developed largely because of the failure of motorists to give their batteries attention needed because of less driving.

All told, battery-ignition-starter trouble accounted for more than 15,000,000 of the 38,000,000 breakdowns reported last year to the A.A.A. by its 11,000 garage members. The 38,000,000 figure compares with a total of 31,000,000 breakdowns in the year 1941.

Evidence that ignorance rather than sheer carelessness is the besetting sin of the American motorist can be inferred from other figures in the study. For example, although the number of flat tires increased from 9,505,000 to 11,000,000, they accounted for only 28.7% of the breakdowns last year as against 30.7% in 1941.

Again, the number of wrecks involving calls for crane cars declined from 1,234,000 to 851,000, and out-of-gas calls dropped from 1,163,000 to 878,000.



When the first of the international conferences starts at Hot Springs, Va., on May 18, delegates from 40 nations will try to draw up a long-term pro-

gram to give the postwar world more and better food at prices fair to both producer and consumer and to assure the farmer a measure of stability.

Food: Weapon for Peace

Hot Springs conference may chart the course of a whole series of discussions of world-wide problems and establish a framework for postwar international collaboration.

The international food conference at Hot Springs, Va., next week will reach deeper currents than the immediate relief problems of the 40 or more nations to be represented there. Far broader and more significant issues are at stake than the amount of wheat, flour, milk, and fruit to be made available to the Belgians, the Greeks, the Russians, the Chinese, when Axis forces are driven out of their countries.

● **Sounding Board**—Realizing that the end of the war in Europe is in sight—possibly barely a year away—both London and Washington intend to use this first big international conference as a sounding board to echo new, sometimes radical, plans for the long-term rationalization of international agriculture.

And, with 40 nations participating, they are testing a formula for other conferences—on monetary problems, tariffs, health and sanitation, and commercial aviation. If the Hot Springs conference evolves a workable formula, not only a pattern for later conferences is set but also a framework for postwar international collaboration is established.

● **Scramble for Supplies**—Immediate relief problems provide an excellent starting point for a discussion of long-term issues in the international agricultural picture.

Belgium, for instance, with an exile government in London and a big supply of gold safely stored beyond the control of the Germans, has already rushed into the world wheat market and bought

200,000 tons for early delivery (BW—Apr.17'43,p88). Since Belgium normally imports more than a million tons of wheat a year, presumably this is only the first of several deals which may mark the beginning of an international scramble for supplies.

● **International Food Pools**—Planners in both London and Washington believe that the only way this problem can be handled now is by the creation of international commodity pools of all basic foods. Available supplies will then be rationed to needy nations not solely on the basis of their ability to pay in cash but according to their need.

While few of the representatives at the Hot Springs meeting are likely to contest the wisdom of such a plan to cover the immediate relief period, controversies are bound to arise when the leaders propose putting the commodity pool plan on a permanent basis. Objectives, according to conferees who have been told in advance of the proposal, are (1) to stabilize world markets for producers by guaranteeing minimum purchases at minimum prices, and (2) to assure consumers of ample supplies at fair prices.

● **France's Breadbasket**—Another long-term agricultural problem pushed itself into the picture as a result of experience in North Africa, the first important territory reoccupied by the United Nations.

Included in the first shipments of relief supplies which were rushed across the Atlantic to Casablanca and Algiers



PROTECTED FISHING RIGHTS

Reduced to about one-fourth its usual size of 300 boats, the San Francisco crab fishing fleet (above) still chugs out to its fishing grounds but under protection of Coast Guard craft. The fleet has been reduced by the draft, alien roundups, and by the Navy's use of fishing vessels, but the catch

this season—already well advanced—is expected to match last year's total of 1,192,000 lb. Cannerymen in Oregon, Washington, and Alaska, humping to offset the absence of Japanese crab imports, will match the domestic pack of 78,000 cases for last year, which increased from 37,000 cases in 1941 and 25,000 in 1940 when the navigation treaty with Japan was canceled.

were more than 200 tons of seeds (BW—May 8'43, p. 78). Not generally realized by Americans is the fact that North Africa, before the war, was an important breadbasket and green grocer for France. Nearly half a million tons of Algerian wheat helped to supplement normal French production at home, and fast steamers maintained a daily flow of green vegetables and fruit to Marseille, Lyon, Bordeaux, and Paris.

• **For the Richest Food**—Biggest single item in the seed shipment, however, was 100 tons of soybean seeds which United Nations food experts decided could provide the richest food in the shortest time. But also included were 22,000 lb. of carrot seeds, 24,000 lb. of turnip seeds, and 3,000 lb. of tomato seeds.

This gives an idea of the size—and the variety—of the relief problem which will confront the United Nations when they move into the continent where 300,000,000 people ultimately will need help.

• **Two Issues Raised**—The question of seeds raises two important long-term issues that are bound to be discussed by the conference.

The first is the problem of raising nutrition standards in various parts of the world. When Rubber Reserve Co. officials arrived in Brazil to help organize the Amazon Valley for a speedup in the collection of natural rubber, they discovered that one of their biggest initial problems was to provide an adequate supply of food for the thousands of workers they wanted to bring into the region. Contrary to the popular belief

that any settled tropical region abounds in food, the average citizen in northern Brazil doesn't even have a back-yard garden; commercial fishing is on such a primitive basis that it fails to supply even local needs; local herds care for only a small fraction of the population.

• **Famine Threatened**—When the submarine campaign in the Caribbean cut off incoming supplies of wheat, meat, coffee, sugar, and salt, the Amazon Valley was actually threatened with a famine. And when Rubber Reserve authorities tried to encourage local production of fresh vegetables, no seeds and gardening equipment were available. Algeria and Brazil typify the kinds of short- and long-term problems which face the conference.

Some of the experts are not content to turn regions like northern Brazil into food-producing areas. They hope to induce other countries to abandon crops which cannot be grown economically or of which there are tremendous surplus stocks in the world, and to grow something that is needed locally.

• **Would Cut Italy's Wheat**—Italy, the experts contend, ought to cut its production of wheat and develop more dairy farms. Instead, Mussolini, in order to prepare the country for war, paid tremendous bonuses to wheat growers while supplies could have been bought much more economically from Canada or Argentina.

In contrast, Denmark, depending almost entirely on imported fodder, developed what was probably the most profitable dairy and pork business in the

world by putting agriculture on a factory routine of studied efficiency.

The same advocates of commodity pools have other schemes which reflect the experience of both Britain and the United States during the past 15 years. • **Farm Credit Bank**—Beyond the commodity pool project, they are talking in terms of an international farm credit bank to help farmers buy modern agricultural equipment, install electric power where needed, and improve the quality of their seeds and livestock.

In places like the Amazon Valley or India, they want to put the fishing industry on a commercial basis as the United States is helping to do in Puerto Rico, or as Basque refugees have done in Venezuela; to create miniature Tennessee Valley Authority projects in the Danube Valley or the Yangtze Valley in China in order to provide industrial jobs for some of the farm hands who can no longer make a profitable living at small-scale farming.

• **Up to U. S. and Britain**—Responsibility for the success of the Hot Springs conference rests squarely on the United States and Britain. They have the managerial capacity, the financial strength, the backlog of equipment-producing capacity, the control of transportation, and above all the dominance in world commodity markets to make their plans succeed.

Washington will point to its hemisphere economic program as an example of the kind of leadership and aid that can be expected from the United States. Significant aspects of this program are the two- to five-year contracts that have been made at specified prices for such tropical products as fibers, vegetable oils, and rubber in order to assure increased production; the rice cultivation that has been encouraged in Colombia on abandoned banana plantations; the revolutionary migration of labor which is being pushed in Brazil where more than 50,000 rubber tappers are being shifted to the Amazon Valley; and in the southern United States where Mexican and Bahaman labor is being imported to help with the wartime harvests.

• **Pattern for Cooperation**—Together London and Washington can point to their efforts during the past two years to buy and share all strategic commodities and can urge that these efforts be made models for cooperative United Nations action after the war.

These are the lines along which concrete action is likely to be taken at the first of the world conferences. Many controversial plans will at first be supported by only a few nations. The success of the food conference and of the whole scheme of postwar international cooperation will depend on how successfully British and American leaders are able to win the confidence of small as well as large nations.

Contract Payoff

When the services come cancellation of war orders, though problems will arise, but a formula is already emerging.

Within the last month or so, business men have begun to do a lot of thinking about termination of government contracts. The more thinking they do, the more problems they discover. As things look now, winding up contracts and arranging for prompt, equitable settlements will be one of the toughest parts of the war program.

It Isn't All Postwar—The biggest problems won't come up until the end of the war when the government starts to cancel its orders for munitions and equipment, but even now the subject is more than just academic. In the last few months, the Army has been reshuffling its production program, cutting down some lines—tanks, for instance,—stepping up others such as aircraft.

In the long run, these early cases may make the main job considerably easier. Army procurement officers are using them as a proving ground, hoping to work out techniques they can use later. Although cancellations are strictly hush-hush, contracting officers say they are getting a foretaste of typical problems and working out procedures. So far, the Navy has had no important cancellations.

Advance Preparations—Actually, the services began to worry about termination long before they had any guinea pigs. A joint committee representing Army, Navy, Maritime Commission, and Treasury Procurement has been working on a uniform termination clause for all government contracts almost since the beginning of the war (BW—Mar. 6 '43, p. 19). As one weary officer put it, "That clause has been in gestation a good deal longer than the human infant, but not quite so long as the elephant."

At the moment, a preliminary draft of the uniform clause is being circulated for opinions from industry, labor, and government officials. If comment is favorable, it should be published fairly soon. If anyone punches a hole in it, the drafting will go on for a while longer. In any case, progress is likely to be slow. Some of the contracting branches of the services may hold out for a general statement of policy rather than a detailed blueprint.

Can Cancel at Any Time—The uniform clause at present specifies that the government can cancel a contract at any stage. If this happens, the contractor is to wind up work and follow instructions in disposing of all com-

pleted goods and semifinished articles.

To determine the contractor's compensation, the clause provides alternative methods. If possible, the contractor and the contracting officer are to agree on a fair settlement which takes account of the amount of work performed, expenses incurred, reasonable profit on work in progress, and any other factors that may be important in the individual case. If they can't agree, the clause provides an elaborate formula for determining the settlement.

It's Really Negotiation—Although the clause would leave the contracting officer a free hand in negotiation, the formula would be the controlling factor in most settlements. Inevitably, negotiated settlements would approximate the results that would have been obtained by applying the formula.

However, the formula isn't a neat mathematical equation that will grind out answers for any problem. It is really a general statement of principle. Briefly, it provides that the government shall pay all costs on completed goods and all expenses incurred on work in progress, including settlements with subcontractors for cancellation of contracts the prime contractor had placed with them. To this, the government shall add a previously agreed percentage of profit. In addition, the government shall reimburse the contractor for any expenses resulting from discontinuance.

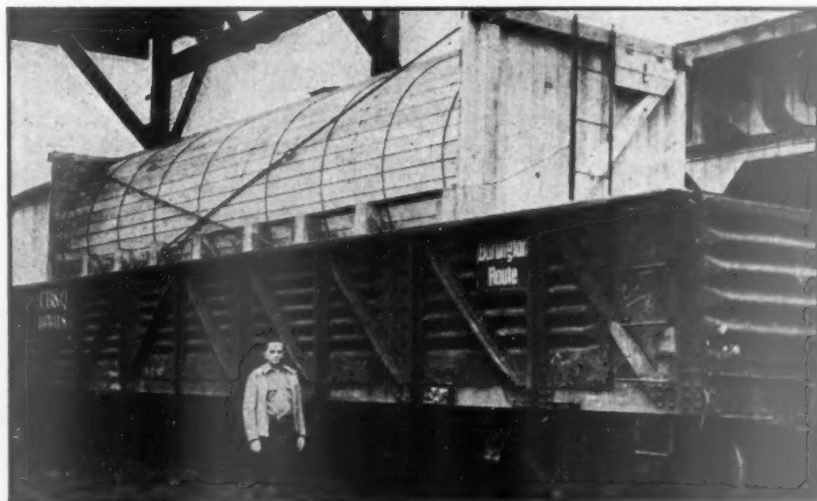
All Very Simple?—This looks like a clear, unambiguous policy as long as it remains in general terms. But when it gets down to specific cases, it runs into a collection of plain and fancy cost accounting problems that vary from case to case.

One big question is how much overhead a contractor will be able to charge to a war contract and how much depreciation on machinery that is used for several different kinds of production. Another is how much freedom he shall have in arranging settlements with subcontractors. In the end, settlement by formula will involve almost as much discretionary judgment as settlement by agreement.

Argument over Method—Each man who has studied the proposed clause has his own opinion of how well it will work. Many think it is so complicated that it will produce endless dispute and quibbling over details. Others say that anything less explicit would leave contractors unsatisfied because they wouldn't know where they stand.

While there's plenty of argument over the way this and other plans would pan out, there's pretty general agreement as to the way it ought to work. The ideal termination plan would give quick settlement and prompt payment. Most contractors would rather get a smaller settlement at once than a generous one after a long delay. The big thing is to get the contractor's government business closed up so he will be free to return to civilian production. This puts a premium on speed and simplicity.

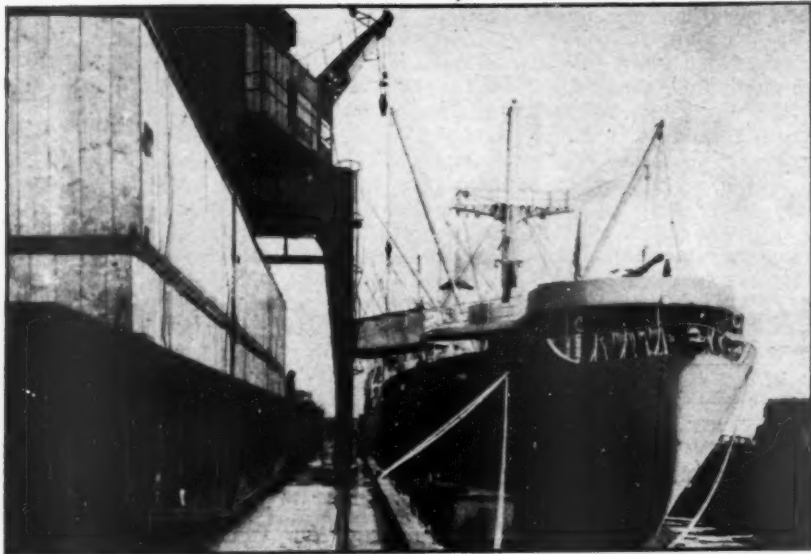
Manufacturers' Attitude—As a matter of fact, termination settlements are only one facet of the infinitely greater problem of reconversion to peacetime production. If industry and government can handle the big job smoothly and quickly, termination settlements won't cause many headaches, no matter what machinery is provided for them. Con-



WOODEN OIL HAULER

Government authorities are interested in the latest scheme for converting coal cars to needed oil tankers with a simple, inexpensive tank. Constructed of 3x6-in. timbers, lined with

14-gage black sheet iron, the container has the 10,000-gal. capacity of the average tank car. Washington-bound this week with his converter (above), Roy E. Gilmore hopes to return to Portland, Ore., with orders that would cut unit costs to about \$2,500.



DOWN THE HATCH!

Efficient dock equipment and packing methods keep battle-bound materials flowing from freight cars to ship holds in almost one continuous movement. At one eastern port, prepacked

guns, food, and munitions are swung directly into cargo spaces without double handling (above). Pennsylvania Railroad crews replace empty cars rapidly to keep the cranes swinging and to avoid the dockside confusion that occurred during the last war.

tractors who see a prosperous civilian market waiting for them aren't going to waste time with lengthy negotiations. Some manufacturers already are saying they would be glad to settle for out-of-pocket expenses if they could be sure they would get a quick discharge that would leave them free to concentrate on peacetime markets.

This means that the success or failure of settlement machinery will depend on a great many things that can't be predicted now. One big factor will be the way the government selects contracts to be canceled. Some industries want full termination of all government business as soon as the war ends. Others would like to taper off slowly while they make arrangements for reconversion.

• **It Isn't Blueprinted**—In many respects, cancellation will take just as much planning and management as contract assignment did. Officials already are thinking about laying out schedules for cancellation designed to make reconversion as smooth and painless as possible. But this will have to wait until the end of the war—or at least the manner of its end—is in sight.

However, even this early in the game it's possible to see some of the big hurdles contract termination will have to clear. Probably the worst job of all will be sorting out the claims resulting from the intricate relations of prime and subcontractors. Many business men think the only way to handle this is to allow subcontractors to take their

claims direct to the government instead of dealing with prime contractors alone.

• **Up and Down the Line**—The idea is that it would take an interminable time for claims to work their way up from second-tier subcontractors to first-tier subcontractors and then through the prime contractors to the government. Probably it would take an even longer time for payments to filter back down to the lower levels.

On the other side of the argument is the fact that requiring subcontractors to claim direct would result in so many claims that it would be almost impossible for the services to handle them. The uniform clause suggested by the joint committee straddles the fence on this by making direct appeal optional. If the subcontractor does make his claim directly against the government, he has to do it on a basis of individual contracts, that is, he can't appeal for an over-all settlement covering all his contracts.

• **What Rate of Profit?**—Another big trouble spot is determining the profit to be allowed on work in progress when the contract is canceled. The uniform clause uses an arbitrary percentage fixed by previous agreement. This follows the clause the Navy has been using in its contracts, but it differs from the policy the Army has adopted.

In canceled contracts of the War Dept., the contractor first gets payment at the contract price for all completed articles, plus all costs on

work in progress. The contracting officer then estimates the percentage of completion on the unfinished work and the profit the contractor would have made on it. The allowance for profit is the proportion of this estimated profit corresponding to the percentage of completion. Navy men say the big advantage of the Army clause is that it is so complicated that almost all contractors are willing to accept a negotiated settlement.

• **Some Latitude**—Even where the arbitrary percentage is used, determination of costs and other allowable items is left up to the contracting officer. The uniform clause provides that if the contractor holds out, he can appeal to the secretary of the department, but the secretary's decision is final. Business men object that this leaves final power entirely in the government's hands, giving them no protection against arbitrary decisions.

And always there is the problem of cost accounting, the difficulties of deciding how expenses should be allocated and what share of overhead a particular contract should bear. In some respects, this is the biggest obstacle of all, but contracting officers think the principles of cost accounting are well enough established to work out the answers.

• **Peacetime Precedent**—As one of them pointed out, "There never has been a business man who couldn't figure out his costs when he was deciding how to price his stuff. There isn't any reason why we can't work the same way on termination claims."

Incentive O.K.'d

NWLB permits individual production bonus at Alcoa plant. WPB advocates plant-wide plan, but industry and unions demur.

Incentive pay for extra production, a subject that has been under quiet discussion in Washington for several weeks (BW—Apr. 3 '43, p. 5), broke into the open when the National War Labor Board granted its first approval to an incentive pay scheme since issuance of the hold-the-line order. The plan was put into effect at the Aluminum Co. of America's Lafayette (Ind.) extrusion plant at the request, it is understood, of the War Production Board.

• **Other Experiments**—In addition to the Alcoa shop, several other extruding plants have been asked by WPB's executive vice-chairman, Charles Wilson, to experiment with incentive pay plans. These extruding plants are naturals for the experiment. The aircraft program is imposing a demand for extru-

ns greater than the plants can meet. Moreover, extruding capacity rather than supply of metal is the limiting factor; plenty of aluminum ingot can be put into the plants in order to keep them busy.

But thinking at WPB goes far beyond installation of incentive plans at a few bottleneck plants. The men around Wilson believe there are large areas of war production where materials are plentiful enough so that extra effort by workers in the plant can produce extra output. They would like to see incentive plans installed in any plant where they feel confident that materials can be supplied to support extra output.

Plant-Wide Incentive—Type of incentive plan favored at WPB is not the one most common in industry in the past, and not the one established at Alcoa. WPB likes a plant-wide plan. Rather than base the incentive pay on the output of the individual worker, it would be based on total output of the plant. To allow for variations in payroll, the figure used would be plant output per man-hour worked in the plant. A reasonable base figure would be established. Then, when output rose 1% above the base, everyone in the plant, including some of management, would get 1% more in his pay envelope.

The plan poses obvious technical difficulties. It's tough, for instance, to establish a sound base which won't reward workers in a plant for having had a poor production record so far. Again, it can only be installed where the material situation is reasonably good, which may create resentment among workers in other industries who feel rebuffed, through no fault of theirs, from a bonus.

Studying its Role—WPB has not as yet thought its way through all the problems and isn't yet sure what approach it should take. Thus it may be that government sponsorship might be confined to propaganda in favor of incentive pay. On the other hand, WPB might have to take an active hand in formulating and setting up some more or less standard plan. No decision has been made, but there's a feeling that under present conditions some sort of guarantee of enough raw material would be essential to the success of any wide incentive plan—and that this would involve some degree of WPB participation.

Washington views affect any incentive plan, too, because of the necessity of NWLB approval. Flat rejection of this type of plan was prevented some time ago, however, when Wilson succeeded in selling the idea at the White House. The result was a little-noticed clause in the hold-the-line order authorizing NWLB to approve incentive plans even though they would increase workers' pay. It was under this clause that

NWLB approved the Alcoa arrangement, even though Alcoa officials estimate that it will result in about a 20% increase in pay for the 2,800 workers affected. NWLB maintains a degree of control by requiring that Alcoa report periodically on the operation of the plan. NWLB also included a proviso that unit labor costs must not be increased by the plan.

• **President Influenced**—It was this possibility of increasing the pay envelope without the clear breach in the anti-inflation line induced by a wage-rate increase which influenced the President—perhaps as much as the production benefits.

Big obstacle in Wilson's way now—and this is a major reason for delay in bringing an incentive scheme forward publicly—is the standoffish attitude of both industry and organized labor. The plan that Alcoa installed at Lafayette is a more or less standard individual incentive plan involving establishment of individual norms for each job and payment of extra money to workers who exceed the norm.

• **Industrialists Disagree**—Industrial reaction generally to the Wilson proposal is that incentive pay is a matter between the individual company and its workers, that there is no justification or need for WPB to intervene. Moreover, most industrialists disagree with the plant-wide approach. WPB stresses that maintenance employees and the like have a strong influence on production and can only be included on a plant-wide basis.

Most employers, on the other hand, feel that the WPB approach dilutes the appeal, that for an incentive to

work, it must hang directly on a man's own effort. An exception is the Murray Corp. of America, which has worked out a compromise scheme for its Ecorse (Mich.) plant (page 20).

• **Unions Suspicious**—Labor spokesmen, too, are dubious about the plant-wide feature, feeling that the effect would be to penalize labor for bad management. The unions are traditionally opposed to incentive schemes, and their first impulse in the face of the WPB proposal is to look for bugs. Carnegie-Illinois has had a score or more of quickie strikes in the past four weeks at its Gary (Ind.) foundry incident to installation of an incentive plan.

Though the unions don't put as much emphasis on a company-by-company approach, they share with industry the view that an incentive scheme is something to be worked out between management and labor rather than in WPB.

• **Tangled in Politics**—Moreover, incentive pay has got itself mixed up in labor politics. The fact that Earl Browder, the Communist chief, has long been urging it puts a strike on it in some unions, helps it in others.

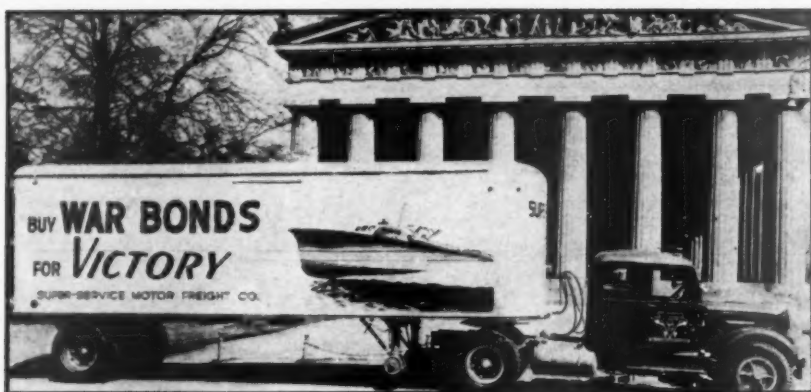
Most serious threat to the prospects of working out some broad incentive pay scheme rises from labor determination to link it with a guaranteed work week. Union leaders argue that in the absence of a guaranteed minimum week's pay, an incentive scheme will have no effect because workers will fear that by speeding up they will merely work themselves out of a job, that the speedup bonus will be offset by a loss of a day's pay or more.



TAGGING THE ERRORS

Gaudy red, yellow, and black tags are hammering home to workers of General Motors' AC Spark Plug Division the fact that their production is vital.

Products failing inspection come back bearing 2x4-in. labels which carry the legend "Defeat Tag" in large block letters. Reverse side of the tag is AC's standard rejection form, contains space for reasons and other data.



MOVING MESSAGES

Gas rationing has materially weakened the advertising effectiveness of stationary highway billboards, but rolling billboards—war messages and bond appeals on the sides of trucks and

buses—are playing to a vast audience. Haulers like Super Service Freight Co., Nashville, are offering a variety of messages and artwork on their fleets of tractor-trailer combinations (above), a trend that may develop into a new advertising medium after the war.

More Pay Does It

Murray's plant at Ecorse found its conditions were right to test extra work-extra pay idea; output is up by 15%.

Fewer men can turn out more work on the home front when conditions are right and the spur of pocketbook-fattening is included. That much has been proved in the Ecorse (Mich.) plant of Murray Corp. of America, where output has risen more than 15% since an incentive pay plan was begun in the days before President Roosevelt's hold-the-line order.

• **Three Factors**—Murray's conditions were right. The men were familiar with time study, the foundation upon which standards for incentive pay must be based. Moreover, the C.I.O. United Automobile Workers local at Murray backed the plan. (Without local backing, the international board of the union will not sanction any such program.) Finally, demand for the military truck frames made by Murray-Ecorse was ahead of output, providing the need for greater output per man in a labor market whose tightness precluded much more hiring.

Cooperatively, the management and the union worked out the plan. Workers are satisfied that time standards are right because their own stewards stand by to check them (BW—Aug. 29 '42, p62). The plant's workers, totaling nearly 1,000, were split into four groups—production workers, nonproduction workers identified with a specific department, nonproduction workers not so identified, and a last group whose

members were deemed not to be involved with output volume (outside truck drivers, tool and die men, others who are mainly in the higher pay brackets).

• **Deviation from Normal**—Those directly concerned with production were put on a pay schedule permitting them a full proportionate share in any output over the 100%-of-normal standard. If a department's output rose to 110% of normal, pay was 10% heavier.

Jerry-drivers, stock handlers, crane-men, and others attached to specific departments reap incentive pay amounting to half the department's showing over normal plus half the above-normal showing of the plant at large. Inside truck operators, yard crane-men, packers and shippers, stock crib workers, and others whose activity helps the production showing of the plant at large are awarded half the plant's average above-normal showing.

• **Union Aids in Speedup**—Some departments, such as assembly line units, can increase output only by group effort. The company and union jointly agree on line speeds, trying to improve them by study of bottleneck operations and breakdown of such jobs into more fundamental components and division along the line.

In the press shop, individual crews set their own operating rates, of course. The best index of their attitude is that, where they formerly welcomed down time on their work as a pleasant interlude, now they grumble at it.

Basic time standards were set with an estimated 18% leeway—against the 100% normal, a seasoned man working at most effective speed should be able to do 118%. Once a standard is set, it is not changed so long as the job continues.

Postwar Skyways

Airline engineer tells what superships of future are going to be in light of real experience instead of fantasy.

Probably no subject has engendered more lunch-table conversation or more starry-eyed writing in the Sunday supplements than aviation's postwar world. But the men who have been doing the thinking that will really determine the pattern haven't been doing much of the talking.

• **Aircraft and Terminals**—Now, in a paper prepared for the spring meeting of the American Society of Mechanical Engineers, one of those men—W. W. Davies, research engineer of United Airlines—has substituted some specific blueprints for a lot of the blue-sky speculation. Out of a long-range study of both the design and the operating factors of past equipment, Davies has developed a series of advanced types of aircraft for special functions in transcontinental operation and the air terminals required to handle them. Four classes of equipment, primarily for domestic airlines, are envisioned:

(1) For first-class service, a 100-passenger transport with a range of 2,500 miles and a cruising speed of 266 m.p.h. This 6½-ton, four-engined plane would have sleeping accommodations for 56 persons and would carry only the passengers' baggage and a moderate quantity of mail. It would have sufficient range for certain transoceanic operations, but larger planes with a higher proportion of baggage space would probably be used in over-water operations.

(2) For second class service with less luxurious accommodations, a 40-ton airliner for 75 day passengers and their baggage that would have a 1,200-mile range and a cruising speed of 260 m.p.h. Both of these designs are low-wing monoplanes with supercharged cabins for high altitude operation.

(3) Parallel feeder service to intermediate stations and service to off-line points would be provided by a "variable load carrier," a twin-engine plane with shifting bulkheads to adjust the ratio of passenger to cargo. This 22½-ton, high-wing monoplane would carry 52 passengers or 14,100 lb. of cargo or mail, with the ratio varied to suit the needs of a particular operation. A 750-mile range would be sufficient.

(4) A plane for cargo alone, with supercharging for the pilot's cockpit and some compartments, would be added to the fleet as air cargo developed. A cargo capacity of 10,410 lb. and a range of 1,500 miles are provided in this design. Like the "variable load" carrier, it is a high-wing monoplane. All four designs have tricycle landing gears which facilitate ground handling, maintain level flight position on the ground, and allow better vision for the pilots while landing.

• **Larger Pay Loads**—An increase in the ratio of useful load to gross weight from



U. S. Army Signal Corps Photo

HOW MANY FIGHTING MEN IN THIS PICTURE?

You see four . . .
in the thick of battle . . . banking their lives on the mechanical fitness of this all-American "smoke-wagon."

Backing them up are the thousands of unseen workers on home production lines. Some shaped the intricate parts of the armored patrol car's engine. Others forged the steel. These parts made by thousands of workers go into every tank, truck, jeep, plane, big gun or ship . . . are produced in hundreds of plants scattered clear across America.

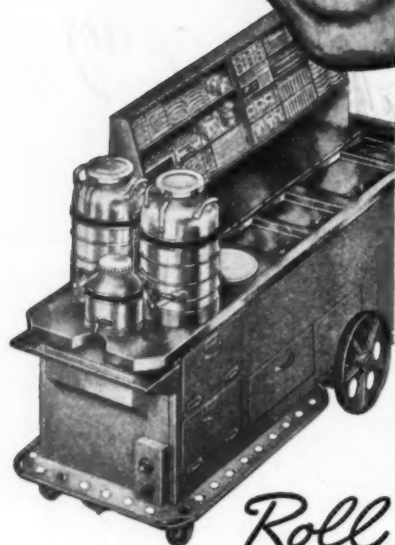
Yet each of these plants can count on a nearby, convenient source for fine Texaco Industrial Lubricants . . . on Texaco's specialized engineering service . . . from any one of more than 2300 Texaco wholesale supply points.

THE TEXAS COMPANY

—in all
48 States



WAR-BUSY AMERICA
EATS WHERE IT WORKS!



*Roll
in the lunch, James*

...WE'RE BUSY WINNING A WAR!

Every minute counts these days in the battle of production . . . and lunch-time bottlenecks can be a serious problem in busy war plants. PIX PORTABLE CANTEEN is one answer to this problem—designed to save steps, save time, save precious floor space. Keeps hot dishes, soups and coffee piping hot. Serves sandwiches, drinks, pastry and candy.

This is just one example of Pick Food Service Equipment that you will find in America's leading factories—planned by the men who'll gladly help you with your problem, be your budget large or small. Send for our new booklet No. CW 6 illustrating PIX PORTABLE CANTEENS.

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America's Leading Food Service Equipment House



FEEDING EQUIPMENT

* For War Industries *

the present level of about 36% to well over 40% in future large craft will reduce operating costs. The tricycle landing gears of the future may develop later into four wheel gears and ultimately may be eliminated in cruising flight. Pay load will be increased by these developments and by methods of assisted take-off to provide an initial boost for the heavily overloaded plane at the beginning of the flight. As fuel is consumed in the course of the flight, the gross weight will diminish to approach normalcy.

Davies believes that aluminum and its alloys will continue to be the most used structural materials with increasing use of magnesium, particularly in the secondary structure. Plastics, he predicts, will be used chiefly for furnishings in cockpits and cabins and in accessory equipment.

• **Necessary Airports**—Davies doesn't stop with this challenge to designers. He hurls one at the airport engineers and another one, perhaps more subtle, at the makers of mechanical handling equipment.

Specifications are set up for large, medium, and feeder terminals, with the idea that some present day airports may aspire to the medium size. This class will be designed to handle 400 total daily movements. Parallel runways of 6,000 ft. to 8,000 ft. will be required in multiples in order to allow room for the simultaneous operation of several aircraft.

• **Other Types of Terminals**—The large terminals for 750 daily movements will have 8,000-ft. to 10,000-ft. runways in greater multiples than those of the medium airports and will be able to handle 75 movements in a maximum hour period. For feeder operations, the terminal requirements will be approximately the same as those of the present average size airport. Runways should be 5,000 ft. to 6,000 ft. long and total daily movements about 125. Smaller communities will have their cargo needs served by the pickup system.

All of these classes of terminals will require instrument landing and traffic control facilities. Strip type runways, 8,000 ft. to 10,000 ft. long with terminals located in the center, will be used extensively.

• **Necessary Equipment**—As for the manufacturers of mechanical handling equipment, Davies poses the problem of handling baggage at air terminals. In the future, passengers ought not to have to sacrifice precious time gained in flying while baggage is handled by bucket brigade methods. A time limit of five minutes for complete unloading, transfer, and loading is set for even the largest planes. Movable ramps, conveyor systems, larger trucks with hoists for elevated loading, and suitable docking facilities at larger terminals enter the picture.

ANTIFREEZE BAN FOUGHT

Protest to the War Production Board over its prohibition of sales of permanent type antifreeze to passenger car drivers went forward last week from the well-regarded War Engineering Board of the Society of Automotive Engineers. Intervention in the matter by the engineers' board aims at reconsideration of the ruling by Washington.

The engineers cite figures to show that the ruling would cause too great a drain on the nation's alcohol supply. Preservation of permanent type antifreezes drained from car radiators, says the recommendation, would make possible its strengthening next winter by addition of only about 4,000,000 gal. of ethylene glycol. Not strengthened, the drained liquid would be useless, the



EACH HOUR COUNTS

Military operations and foreign transportation long have been timed precisely by the 24-hour clock (above), which needs no a.m. or p.m. qualification. Now one domestic system, Western Air Lines, schedules all its flights (below) by that logical method. Convenience of military patrons is Western's announced reason, but post-war prospects of international aviation undoubtedly are a factor. Until civilians become accustomed to the system, Western will continue to print schedules in both ways.

FLIGHT NO.	3-9
WESTERN AIR LINES—DAILY	(12 hr. Clock) (United Clock)
SAN DIEGO (PT) Lv	4 00 10 00
LONG BEACH Lv	3 35 11 15
LOS ANGELES Lv	3 00 11 00
LOS ANGELES (PT) Lv	10 30 10 30
SALT LAKE (MT) Lv	9 00 9 00
via United Air Lines	
SALT LAKE Lv	7 00 07 00
DENVER (MT) Lv	4 05 04 05
OMAHA (CT) Lv	12 00 12 00
CHICAGO Lv	10 35 10 35
CHICAGO (CT) Lv	10 00 10 00
DETROIT (v) (ET) Lv	8 07 08 07
CLEVELAND Lv	9 04 09 04
AKRON Lv	8 34 08 34
PHILADELPHIA Lv	6 00 06 00
NEW YORK Lv	5 30 05 30
via Pan Am Control Air Lines	
CLEVELAND Lv	8 35 08 35
PITTSBURGH Lv	7 35 07 35
WASHINGTON (ET) Lv	6 40 06 40



G.H.Q. for Industrial Sewing

- Seam and Stitch Types
-
- Sewing Charts
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- Garment Specifications
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- Conversion to War Work
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- Sewing Machine Maintenance
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- Needles
-
- Operator Training
-
- Government Rulings
-
- Limitation Orders
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- Repair Parts

WRITE for a copy of "Seams and Stitches", new handbook giving complete data on all common seams and stitches.

IT is no exaggeration to state that in many senses, the Union Special Machine Company has become General Headquarters for wartime sewing problems. The main office and branches of this organization have become nerve centers, linking together manufacturers, suppliers and Government agencies in many phases of sewing, a few of which are itemized at the left.

Whether you are in the Needle Trades proper, a user or prospective user of but one industrial sewing machine, feel free to call upon Union Special for any information or help in connection with sewing. As world's largest exclusive builder of industrial sewing machines, Union Special recognizes its obligation to provide industry every possible assistance. A copy of a recent issue of "The Needle's Eye," Union Special's bi-monthly publication will give you an insight into the services performed by this organization. Write for one today.

UNION SPECIAL MACHINE COMPANY
408 North Franklin Street, Chicago, Illinois

Union Special Machine Company

engineers contend, necessitating an estimated 20,000,000 gal. of alcohol to replace it.

Control of the sales of antifreeze recommended by means of ration cards. Quick action was urged, to safeguard radiator solution now being drained and likely to be thrown away unless its use was indicated for next winter.

Soap Sales Off

But trade is less worried about that than about finding raw material sources to replace those bottled up in Pacific.

If cleanliness is the true measure of godliness, the country suffered a considerable slump in virtue for the first quarter of this year. While manufacturers' sales of all soap rose seasonally they show a drop of 15% below the same quarter last year. This includes reports from 70 companies representing 90% of total output whose sales totaled \$91,393,000. The drop in volume of nonliquid soap during the same period was 20%.

• **Need Raw Materials**—This slip from last year doesn't worry the trade. It pointed out that the first three months of 1942 saw something like panic buying of soap which went largely into warehouses. What does worry the industry is finding sources of raw materials to make up for the loss of copra (from coconut meat) which came from the Southwest Pacific in pre-Japanese days. Present War Production Board limitations hold the industry to 84% of materials used in 1941, and soap makers hope to prevent further cuts.

Further indication that the reduction in sales may be mostly artificial is the report on liquid soap deliveries. Sales (\$781,000 for 41 manufacturers) for the first three months of this year were highest since the Assn. of American Soap and Glycerine Producers began making quarterly reports in 1935.

• **Fat Collection Off**—Collection of waste kitchen fats, however, is proving that all is not happy in this war sector. During March the collections amounted to 7,312,000 lb. which was only 43.9% of the national quota. Undoubtedly meat rationing was an important factor in the low score. WPB's Salvage Division isn't discouraged, says that collections are climbing.

The present rate would mean about 90,000,000 lb. per year—more likely 100,000,000 lb. While these collections are highly important (not only as a source of glycerine for explosives but also as a means of bringing the war effort intimately into the kitchen), homes will produce only about 3% of the nation's total inedible fats and oils.

Atabrine Speedup

Government raises sights still further on antimalarial compound as British production falls behind schedule.

American production of Atabrine, a quinine substitute, has again been raised upward (BW—Apr. 24 '42, p80). Weight of a heavy new schedule was shifted to this country recently when Britain confessed inability to carry through its part of a huge Anglo-U. S. program. The move meant relaxation of licensing to allow new manufacturers to participate. Winthrop Chemical Co., owners of the original German patents on Atabrine, must console itself with the knowledge that this competition is necessary to meet a world-wide emergency.

• **Monopoly is Lost**—Japanese conquest of the Dutch East Indies carried with it control of the world's quinine monopoly (BW—Mar. 14 '42, p66). Quinine was the principal defense against malaria which kills 3,000,000 persons annually in normal times. Loss of the drug constituted a serious threat to the Allied troops in tropical countries, and immediately after Pearl Harbor, steps were taken to boost output of Atabrine, then made exclusively in this country by Winthrop Chemical Co.

Atabrine is a coal tar derivative developed by the Germans. Before the outbreak of war, I. G. Farbenindustrie (the German dye trust) had a half-interest in Winthrop Chemical. Winthrop purged itself of German influence before Pearl Harbor, and, thereafter, Alien Property Custodian Leo T. Crowley seized the German half-interest in the company.

• **Upward Revision**—Last summer Winthrop licensed Merck & Co. to make Atabrine while vastly expanding its own production facilities (BW—Jul. 18 '42, p46). Crowley resisted clamor to relax licensing because the two companies appeared able to meet all requirements. However, by the fall of last year, U. S. military plus lend-lease demand for Atabrine had reached astronomical proportions. Conferences of British and War Production Board officials with drug company executives resulted in a joint plan designed to meet any emergency.

Since Atabrine is made from coal tar, and the processes are somewhat like those used in the dye industry, the WPB insisted on bringing converted dye plants into the picture. The third producer enlisted to meet America's promised output was the Harmon Color Works, Newark, N. J. It had recently been purchased by American Home Products, important in both the pro-



One Source of Carbine Fire Power

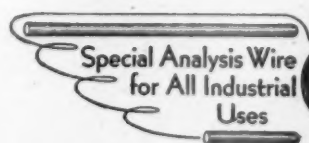
KEYSTONE
Wire

The 30-caliber M-1 carbine, now being turned out in thousands, multiplies many-fold the firing effectiveness of officers, specialists and gunners.

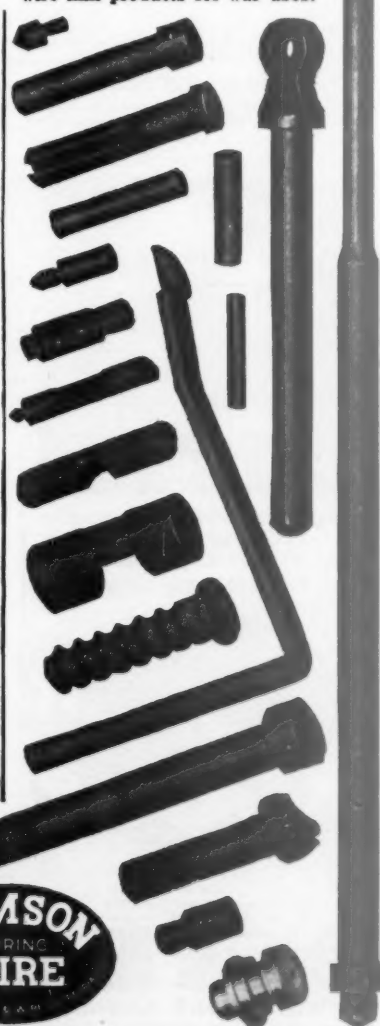
Notice, in this one weapon, the many parts that come direct from wire mill production. It is typical of hundreds of war items that are made from Keystone wire.

Meanwhile, every single pound of steel that can be spared is going into most essential civilian items.

KEYSTONE STEEL & WIRE CO.
PEORIA, ILLINOIS



These carbine parts (enlarged) are just a few of thousands of wire mill products for war uses.



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CALIFORNIA'S TANK

For many West Coast companies, the war is winning industrial independence from the East. Hundreds of products that formerly came only from eastern factories are now made at home. To demonstrate this shift, General Motors recently held open house at its Los Angeles tank plant for 1,500 industrialists. Displays (right) showed that half the parts for the firm's M-5 tank (below) are products of local and western subcontractors.



prietary and the pharmaceutical sectors of the drug industry.

● **Still More Needed**—Several months ago, United Nations requirements were revised upward. As a result, a fourth manufacturer was brought into the picture—Hilton-Davis, a Cincinnati dye concern. Since this company has no facilities for making tablets, it will produce only the bulk powder. Most of this will be sent to William S. Merrell Co., Cincinnati, and Frederick Stearns, Detroit (two pharmaceutical houses), for final processing. The plan calls for more intermediates from Hilton-Davis than it can make into bulk powder. These excess intermediates will be shipped to Squibb, Abbott, and Eli Lilly for manufacture into tablets. A fifth manufacturer has just been brought into the picture, National Aniline Division of Allied Chemical & Dye Corp. Like Hilton-Davis, National Aniline will make only bulk powder.

● **Civilian Market Guarded**—In view of its original patent rights, Winthrop is protected to a certain degree. It is the only company that will be permitted to sell Atabrine for civilian use. Quantities to be sold in this market are controlled by a WPB allocation order.

HUNTING—IN SELF-DEFENSE

There probably will be predatory pheasant and defiant, dangerous deer this fall, which men will have to shoot in self-defense. The War Production Board has finally ruled on ammunition (BW—Feb. 27 '43, p46)—sought by millions of sportsmen who went short even last year—that it will be available only for "essential" users. These include only ranchers and farmers who must control predatory animals in order to protect livestock.

No stocks were made available to pleasure hunters, except those of dealers who may still have less than \$250 worth on hand—a mere drop in the bucket. Otherwise all buyers must sign certificates of essential use which the dealer must keep. Only one loophole is left—a nonessential user may apply on Form PD-860 to the governmental division of WPB in Washington.

Probably a lot of pleasure hunting will be bootlegged under the "essential" guise next fall. But the order seems on the whole to spell a final, war-long stasis for the multimillion-dollar industry built on man's unflagging zest for hunting.



CONSERVE
YOUR CABLES



Dam . . . fine . . . rope!

A dam is merely matter displaced to do a job. In the past, the displacement was done by pick and shovel, the backs of men and mules, hand barrows and dump trucks . . . But the colossal dams of today are possible only because of wire rope.

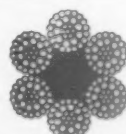
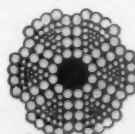
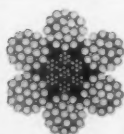
Shovels, scrapers, ditchers, derricks, pile drivers, hoists . . . the tall towers and complex conveyor systems that keep materials in constant flow . . . are all actuated by wire rope. In dam building and other large construction projects, wire rope is exposed to weather and rough treatment, subject to steady loads and sudden strains . . . stands up in gruelling three-shift service, saves time schedules and fends off contract forfeits. On large jobs and small, Rochester Ropes have won top rating, are standard specification with many of the most successful contractors.

Rochester production today is reserved to government services and high priority users



. . . but for the best in wire rope tomorrow, remember the name—Rochester!

ROCHESTER *Ropes*



Wire rope is precious now! Take proper care of what you have!



Track Press
Equipment

RODGERS Hydraulic Trailer Track Press illustrated above is designed to service all crawler type tractors, and is furnished with the "Retractable Jaw," which is considered the finest improvement ever to be made in track servicing equipment.

The Trailer Track Press is equipped with four-cylinder hydraulic pump, powered by a four-cylinder gasoline engine.

Other models are available mounted on four wheels, or as stationary units.



RODGERS Hydraulic Track Presses are recommended and approved by the Engineering and Servicing Departments of every crawler tractor manufacturing company. Rodgers equipment will service all crawler type tractors with Power, Speed, Durability and Safety. *If it's a Rodgers, it's the best in Hydraulics.* Rodgers Hydraulic Inc., St. Louis Park, Minneapolis, Minnesota.

Rodgers
HYDRAULIC, Inc.

Money in Mules

Army bids up the price of those it wants, but the experts believe farmers are doing most of today's brisk buying.

Those much-publicized mules that plod through Tunisian mud where jeeps fear to tread aren't from Missouri—yet. So far as is known, only native pack mules are being used in North Africa, although some United States mules have been shipped to the southern Pacific war theater. Those mules that the Army is now purchasing will be shipped to both fronts after they have been put through several months

of rigorous conditioning and training. **• Farmers Big Buyers**—How many mules the Army is buying is a military secret, but such authorities as the Horse and Mule Assn. of America estimate that the number is an insignificant part of the total U.S. sales. Most of the 145,000 mules handled by the country's public stock markets last year (compared with 98,000 in 1941) were sold to farmers badly in need of animal power to replace hard-to-get tractors. Sales in the first three months of 1942 were 63,000 mules—11,000 more than were sold during the same period in 1942.

Prices are up correspondingly. Mature mules now bring \$400 to \$500 a team—which is \$50 to \$75 more than the same animals would have brought a year ago. An exceptionally fine pair



LIKE PEAS IN A POD

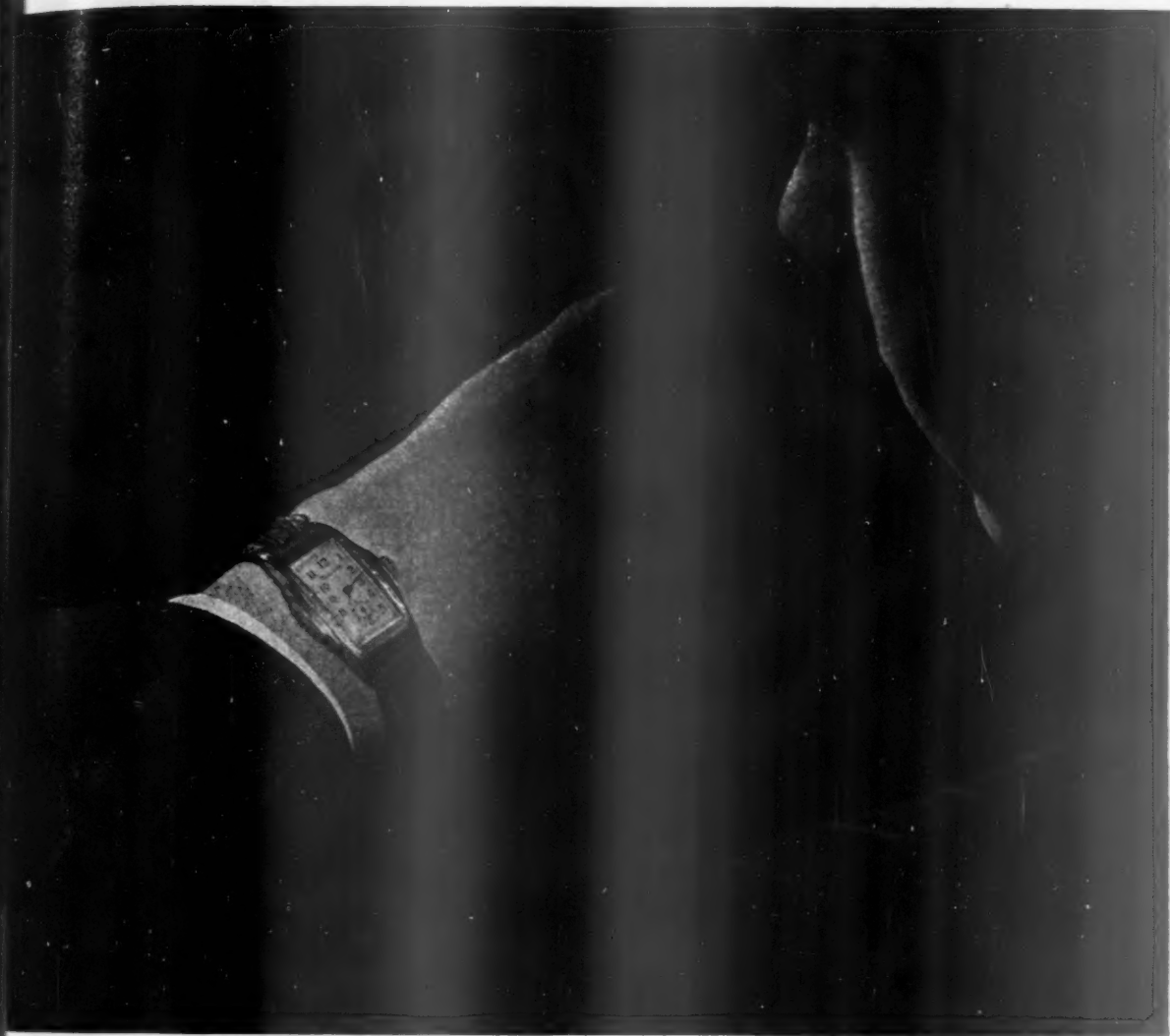
Relieving the acute housing shortage in war plant areas are thousands of new trailers, many of them cut from the same pattern under an agreement by 25 manufacturers to standardize the industry for the duration. Into the Portsmouth (Va.) district (above) are coming 2,500 trailers from plants in Michigan, Indiana, and Illinois. Southern factories, such as the M System Trailer Manufacturing Co., Vicksburg, Miss., are filling vast stor-

age plots (below) with shelters to be sent to the Gulf section. With plywood out of sight and federal specifications allowing less than 275 lb. of steel and 3 lb. of copper a trailer manufacturer is using other materials. M System uses Upson board for interior walls, pressed-paper Homasote outside, canvas for roofs. Average cost to FPHA is \$1,150 a family (four persons) unit, including furnishings and installation. Rents range from \$4 to \$6 a week. A unit takes 45 min. to slip from wheels to foundation.



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JUST A MINUTE!

Such a little time, a minute—

Chance for only one more yawn in bed . . .

Or another look in the shop window on your way to the office

Or your waiting lathe.

But a minute is one of those Little Things that's a Big Thing

If everybody wastes it—

Or saves it.

For one minute saved by fifty-two million employed Americans

Is 866,666 hours a day.

And that's a lot of time to speed the day of victory—

When every one of us realizes what *just a minute* means.

Here at Tobe our special task is to produce Little Things called Tobe Capacitors. They are used by the Army and Navy in many ways, as part of electrical circuits that require reliable condensers of long life under all operating conditions. . . . Modestly, we believe that in making Tobe Capacitors in ever-increasing numbers we're doing one more Little Thing that will help achieve the Big Thing we're all after.



A SMALL PART IN VICTORY TODAY—A BIG PART IN INDUSTRY TOMORROW

An Opportunity

for a **MACHINERY MANUFACTURER** or **INVENTOR** to play a profitable part in our post-war expansion program

For the past 30 years, we have maintained a position of leadership in the packaging machinery field. And when war came we were among the first to engage in the designing and building of armament machines. Starting with shell-loaders, we progressed to piercing and priming machines, cartridge clip loaders, linking machines for .50 cal. cartridges, etc. In addition, we have taken on the manufacture of gyroscopic compasses.

All of this has added greatly to our plant capacity and to the creative ability of our organization. Consequently, we are in an extremely favorable position to undertake an expanded post-war business.

Right now, we are working on ideas to improve and enlarge our regular line of wrapping machines when peace comes. We are also planning to manufacture and sell other types of machines used by industries outside the packaging field.

If you are a machinery manufacturer or inventor, this may present just the opportunity you are seeking.

● You may have ideas for new machinery which need development. We will be glad to discuss them with you, and if mutually satisfactory, will develop them with you.

● You may have a machine or machines which you have been making in your own plant, but which might be improved and made with greater profit in ours.

Final arrangements may result in your coming into our Company—or may be worked out on some other desirable basis.

If you feel that you have something on which we might work together, we suggest that you communicate with us, giving full particulars. We can then arrange for a meeting.

PACKAGE MACHINERY COMPANY, Springfield, Massachusetts

Over a quarter billion packages per day are wrapped on our machines

The NATURAL INDUSTRIAL CENTER of the WEST

"By CARGO PLANE, Frank?"

"That's right, Jim! By land, by sea and *by the air*. That's how we'll serve not merely the Pacific Coast, but the entire Pacific Basin."

"But how can we, Frank, from here?"

"Not from here, man! From our new Metropolitan Oakland Area plant. With that central location, and its three transcontinental railroads, with ocean terminals and airport facilities unexcelled in the West, our plant would be sitting pretty..."

"Three thousand miles nearer than our competitors to those hundreds of millions of prospects in the Pacific Basin countries."

"There never has been such an opportunity for profits from a West Coast plant, and we're going to grab it. I've already asked Metropolitan Oakland Area to compile a Special Survey, facts and figures applied directly to our individual operation."

A HUGE POOL OF SKILLED LABOR; abundant power; central location for serving Pacific Coast, Eleven Western States and export markets; low-cost distribution; raw materials in wide variety; desirable factory sites...

Only a few of the advantages of Metropolitan Oakland Area.

Prepare NOW for postwar development. Write for full information and Special Survey.

METROPOLITAN OAKLAND AREA
387 Chamber of Commerce Bldg.
Oakland, California 2316

**METROPOLITAN
OAKLAND AREA**
CALIFORNIA

ALAMEDA • ALHAMBRA • BERKELEY • EMERYVILLE • HAYWARD • LIVERMORE • OAKLAND • PIEDMONT • PLEASANTON • SAN LEANDRO • NUBAL COMMUNITIES OF ALAMEDA COUNTY

will sell for as much as \$600. There is a heavy demand now for yearlings (\$65 to \$125) and two-year-olds (at \$125 to \$165) from farmers in Tennessee and Arkansas, where mild winters permit year-round pasture.

● **Profitable Business**—Although prices for these young animals are \$30 to \$50 more than a year ago, they can be sold at a tidy profit by the time they are "coming on three years and broken in harness." Weanlings (age about 18 months) purchased in September and October at \$40 to \$60 will bring \$100 to \$200 a head by the time they are 2 years old.

The Army is currently paying \$225 a head for its mules; this is something higher than a farmer would pay for the animal, but such buying has little effect on civilian markets because of the small quantities involved. Army specifications are for short, thick-set, burly animals "smooth at the hook point" so that the pack saddle doesn't rub on the hock bone. Reason for the maximum height of 15 hands 2 in. (62 in.) is that soldiers can load a 400-lb. pack on a lower mule more easily than on a tall one.

● **Mules' Advantages**—Three-fifths of the country's 3,484,000 farm mules of working age are concentrated in 14 southeastern states. The reason is that mules are better able to stand continuous heat than horses and can be more safely trusted to inexperienced or indifferent farm hands because no amount of persuasion of any kind will make them work beyond the danger point.

Actually, mules are more valuable than horses. Currently, the average value of U.S. mules of all ages is \$127.46 per head compared with \$79.97 for horses. The ten-year average value for 1931-1940 was \$98 per head for mules, \$76 per head for horses. Young mules are more easily broken to harness, and they can be sold at almost any time—weanlings, yearlings, or two-year-olds—while a horse has little sale value until it is three years old.

● **Production Drive**—These facts are being pointed out now to farmers in an effort to increase the production of mules. U.S. Dept. of Agriculture estimates that on Jan. 1, 1943, the country had only 115,000 mule foals dropped in 1942. According to the Horse and Mule Assn. of America, there should have been at least 206,000, to assure replacement of normal death losses. (Note: "Mule foals dropped in 1942" is trade terminology. It seems that lots of mule foals die young, so only those "dropped in 1942 and still living on Jan. 1, 1943" are counted.)

It costs only about \$75 (including \$15 stud fee) to raised a mule foal to three years of age on good pasture and choice hay, without grain. Yet farmers find it unprofitable to raise them except as the byproduct of brood mare kept primarily for farm labor.

Now



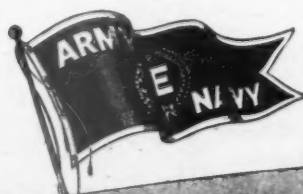
WE ARE PROTECTING *him!*

HE . . . the boy in the Armed Service . . . needs protection.
 HE . . . needs TENTS that will not leak.
 HE . . . needs TENTS that will not blaze.
 HE . . . needs TENTS that will not rot.
 HE . . . needs TENTS that will not stiffen in the cold.
 HE . . . needs TENTS that will not get gummy in the heat.

Phil-Pro-Tex finished canvas is giving him tents that provide just this kind of protection. . . Phil-Pro-Tex is a recognized essential contribution to the winning of Victory . . . sooner.

On March 9, 1943, Phil-Pro-Tex received the coveted Army-Navy "E" Award for meritorious production of War-Material.

The Philadelphia Textile Finishers, Inc., 3701 No. Broad St., Philadelphia.



**REPELS
WATER · FLAME · ROT**

When

VICTORY IS WON

PHIL-PRO-TEX . . . the War Veteran, will resume its civilian activity, making available awnings and canopies not only waterproof, but flame-retardant and rot-repellent, as well.

Then, lasting hatch and boat coverings . . . long life and really protective tarpaulins and merchandise coverings . . . will be available.

It is not too early to plan to take advantage of what Modern Chemistry has developed. An informative booklet will be sent to those interested.

WILLIAM L. BARRELL CO., SELLING AGENT, 40 NORTH ST., N. Y., N. Y.

Services in Check

Seattle protests effort of armed forces to preempt more hotels and apartment houses—and gets results.

Whether an American city packed with war workers and trying to solve acute housing problems can demand that the armed services stop taking over hotels and apartment houses already occupied by civilians is a question now being answered in Seattle.

• **Hotels Full**—Metropolitan Seattle's population stands at approximately 580,000, an increase of 128,000 over the federal census of 1940. The building of new houses has not kept pace with the influx of new families. Apartment buildings and hotels in the city are full and trailer camps are prevalent.

Consequently, when the Army, Navy, Coast Guard, and United Seamen's Service recently announced they were preparing to lease and evict tenants from three of Seattle's hotels and three large apartment houses, the fireworks broke loose. Mayor William F. Devin, together with Nat S. Rogers, chairman of the housing division of the Seattle Chamber of Commerce and Seattle Civilian War Commission, and Ben B. Ehrlichman, vice-chairman of the commission's administrative board, asked that all such leasing be stopped.

• **Dormitories Urged**—The mayor argued that the services should construct temporary dormitories or barracks for their personnel, just as is being done for single men and women going to Seattle for the war industries.

The result to date is that the Navy has agreed to be satisfied with one apartment house rather than three in connection with its University of Washington training school opening July 1. And the Army, Coast Guard, and United Seamen's Service have agreed to follow a slower course.

Two Seattle hotels, the Frye and the New Richmond, previously had been appropriated by the Army.

WHAT THE ICE DID

How heavily the ice barriers in Whitefish Bay and the Straits of Mackinac have cut into deliveries of iron ore on the Great Lakes is indicated by the season's first report of the Lake Superior Iron Ore Assn. Last year, lake carriers moved 8,649,708 tons up to May 1; this year, the total was only 1,954,817 tons.

Floating ice was a handicap to shipping as late as the first few days of this month. Lake Superior ore docks, whose last season's total of about 86,000,000 tons approximated 90% of the lakes' ore movement, had loaded only 1,374,-

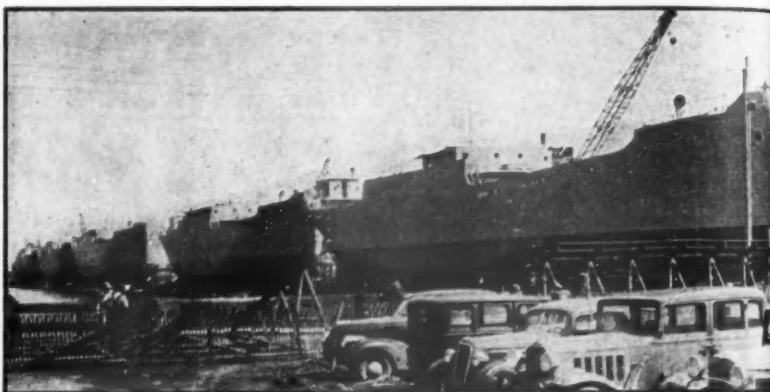
632 tons up to May 1. Only an exceptionally late closing next fall will make it possible to balance the season's supply against record demands.

Escanaba loading docks on Lake Michigan showed a May 1 total of 580,000 tons, only about 100,000 behind the same date last year. Escanaba's opening Apr. 1 was only 14 days behind last season, but Lake Superior was a full month behind 1942's early opening (BW—Apr. 24 '43, p46).

ALUMINUM COPPERED

Additional evidence that copper producers may be looking toward the light metals for a share of their postwar business (BW—Oct. 3 '42, p7) was supplied this week when two of them, Anaconda and Phelps Dodge, were allocated aluminum extrusion plants by the WPB. A third extrusion plant was allocated to Reynolds Metals.

Reynolds, ultraconscious of its competitive position as against the Aluminum Co. of America, also hopes to round out its aluminum production by adding pressure casting and forging machinery to its lineup.



Setting a record for broadside ship launchings in one day, five Liberty ships hit the water at Superior, Wis., this week—each christened by a Di-

Dionne Fleet

Quintuplets at launching focus attention on big strides in shipbuilding on Great Lakes since the last war.

Attention was directed to Superior, Wis., last Sunday when the Dionne quintuplets journeyed to that Lake Superior port to participate in the christening of the five cargo ships built for the British at the yards of Walter Burdett Shipbuilders, Inc.

• **'Round the World**—A world-wide broadcast, in which Princess Margaret Rose, younger daughter of King George VI, sent her greetings by short wave, put the spotlight on the rapidly expanding Great Lakes shipbuilding industry.

During the World War, Superior shipyards launched 77 ships. After the war, the shipbuilding industry went into the doldrums. Now it has been revived on a greater scale.

• **Biggest Yard**—Robert S. Butler of St. Paul, a building contractor, went in



onne quintuplet. Ceremonies called attention to the growing place of Great Lakes yards in this country's expanding shipbuilding program.

shipbuilding after he had built a \$110,000,000 arsenal at Huntsville, Ala., and \$57,000,000 naval training station in Idaho. The Butler yard, biggest single yard on the Great Lakes, employs 4,500 men.

Superior's shipbuilding tradition began in the 'eighties when Alexander MacDougall persuaded Andrew Carnegie to back him in the building of whalebacks. The famous old Lake Michigan whaleback, Christopher Columbus, was built a few hundred yards from the ways where the "quint fleet" had its festive launching.

Volume Quadrupled—The volume of shipbuilding in the Lake Michigan district is far greater than during the World War. Development of shipbuilding on the Lakes is illustrated by the following summary of contracts that are now under way:

Walter Butler Shipbuilding Co., twelve 3,000-ton cargo ships, twelve 305-ft. corvettes.

Globe Shipbuilding Co., Superior, eight 190-ft. steel tugs, eight 305-ft. corvettes.

Barnes-Duluth Shipbuilding Co., Duluth, six 3,000-ton cargo ships; just launched twelfth tanker.

Zenith Dredging Co. and Marine Iron Works, Duluth, building cutters for the Coast Guard.

Leathem D. Smith Shipbuilding Co., Sturgeon Bay, Wis., 32 175-ft. sub chasers, nine 3,000-ton cargo ships, eight 305-ft. corvettes (20 of these already have been delivered).

Sturgeon Bay Shipbuilding & Dry Dock Co., twelve 150-ft. retriever boats, eight 99-ft. cargo boats.

Peterson Boat Works, Sturgeon Bay, 16 110-ft. wooden sub chasers.

Sturgeon Bay Boat Works, 16 smaller wooden boats for the Army.

Manitowoc (Wis.) Shipbuilding Co., 30 submarines.

Burger Boat Co., Manitowoc, 16 135-ft. mine sweepers, two 110-ft. sub chasers.

Waterways Engineer Co., Green Bay, Wis., four 190-ft. barges.

Marinette (Wis.) Shipbuilding Co., four 190-ft. barges, five 50-ft. tugs.

Froemming Bros., Inc., Milwaukee, eight 180-ft. ocean-going tugs, four 305-ft. corvettes.

Kewaunee (Wis.) Shipbuilding & Engineer Co., eight 99-ft. steel cargo vessels.

Pullman Mfg. Co., Chicago, 30 (or more) 180-ft. combination escort and mine-sweeping vessels.

Calumet Drydock, South Chicago, building tugs for the Army, has completed an order of tugs for the Maritime Commission.

Henry Grebe Co., Chicago, 20 135-ft. mine sweepers.

DeCoe Shipbuilding, Bay City, Mich., 50 173-ft. sub chasers, twelve destroyer-escort vessels.

Great Lakes Engineer Co., Ecorse, Mich., ten 600-ft. cargo ships.

Toledo (Ohio) Shipbuilding Co., large ice breaker for Coast Guard.

American Shipbuilding Co., Cleveland and Lorain, six 600-ft. freighters, seven 305-ft. corvettes.

Fisher Boat Co., Detroit, building 110-ft. sub chasers.

LOWER PAYROLL DEPARTMENT COSTS

Proved ways to save time and money in payroll preparation

Today, Federal and State laws require numerous reports and definite records. Deductions for Social Security, Unemployment Insurance, War Bonds, Victory tax, and soon, probably, deductions for income taxes—all add to the payroll department's burden and expense if outmoded methods are used.

But payroll costs actually can be lowered by the use of methods designed to fit today's requirements. For thousands of employers we have installed payroll procedures that make record-keeping easy and accurate, save time and money and comply with all governmental regulations. No expensive equipment or high-salaried employees required.

These satisfied employers tell us they have cut payroll posting time

25% to 50%, and have no worries about law compliance. Government reports are easily completed on time, and employees are happier.

To know more about the service that suggests ways to secure these results, just mail the coupon. No obligation.

SEND FOR THIS BOOK



THE TODD CO., INC., ROCHESTER, N. Y.

We'd like to have a copy of "Payroll Problems We May Help You Solve."

Company name _____

Address _____

City _____ State _____

By _____

BW 5-15-43





NEED METAL FABRICATION FOR SUB-CONTRACT WORK?

Like the many others who have turned to us for sub-contract work, you'll find Craft ready to gear right into your production schedule with specialized experience... modern equipment... intelligent engineering... careful management.

In other words, if you need outside help by using Craft's facilities you will save time and money and speed results.

Check service you need most, write or phone for further details or send blue prints for prompt quotation.

CRAFT offers you these 7 SERVICES in Metal Fabrication

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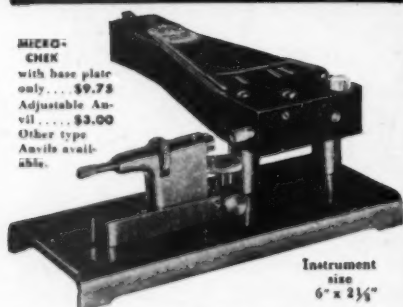
Craft

MANUFACTURING CO.
1512 N. Fremont St., Chicago

Stainless Steel Specialists

This New War PRODUCTION GAGE

is helping 2500 war plants
speed their output



MICRO-CHEK
with base plate
only... \$9.75
Adjustable Anvil... \$3.00
Other type
Anvils available.

Instrument
size
6" x 2 1/8"

Less fatigue, faster inspections, are speeding up the gaging of millions of precision parts in more than 2500 war plants now using the TRICO MICRO-CHEK. Its advantages:

1. Greater speed with no sacrifice of accuracy; 2. Faster reading, less eyestrain and fatigue on operators; 3. Original accuracy continuously retained by re-setting with original master parts; 4. Inexperienced workers quickly become accurate inspectors.

TRICO

Write for illustrated booklet
showing many applications
of Micro-Cheks.

TRICO PRODUCTS CORP.
Room 25 Trico Building
Buffalo, N. Y.

Globe Sales Soar

Steady drain on dealers' supplies of maps, globes, and atlases seen as Christmas rush that never ended.

Armchair strategists tired of craning their necks to study "down under" areas like Australia on standard geographical globes will welcome the new "free" globes now offered by several suppliers. With no axis rod or meridian, and not attached to the base, they can be banded about as easily as a basketball. The North Pole area—now so important to air travel—is just as accessible as the tropics. Happily, these new globes also solve the problem of finding substitutes for metal fittings.

• **Free Globes Are Latest Wrinkle**—Rand McNally's "Air-Age" version is typical of the new free globes—in timing as well as appearance. It was ready for marketing several months ago, but announcement of it had to be delayed until adequate stock could be produced. Other globe suppliers are in the same plight—partly because of shortages of labor and even noncritical materials, but mostly because the demand for globes is now at least three times normal (as represented by early 1939). Ordinarily, most globe sales (except to schools) are made at Christmas time, but dealers remember the Christmas rush of 1941 as the one that never fell off. Many a dealer's order for Christmas 1942 wasn't de-

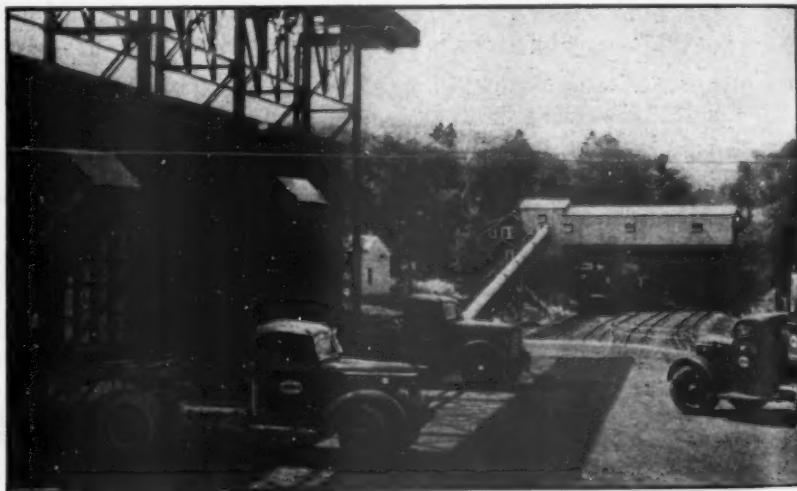
livered until March. Globe makers are still several weeks behind on deliveries.

Globe making in this country is confined to four manufacturers, although there are a dozen or more large, well-known suppliers. By contrast, the 35,000,000 population of the British Isles supports five large, well-established manufacturers, and before the war, France and Germany each had at least one globe manufacturer.

• **Bulky for Import**—Few globes are imported into this country because their bulk makes shipping costs too great. Both European and American globes are exported to South America. American shippers have cut their transportation costs one-third by shipping globes "knocked down"; native laborers then glue the two hemispheres together by hand.

Besides buying more globes, the American public is buying more expensive ones. The average buyer used to buy a 10-in. globe for about \$2.00, often just for decorative purposes or as a nice thing to have around. Now he's ready to pay \$3 to \$5 for a larger globe because it will give him more information.

• **Up to \$100**—Prices range from 98¢ to about \$100. For example, Replogle Globes, Inc., whose line is probably typical, offers machine-made globes ranging from \$2 to \$13.50 and handmade globes from \$17.50 to \$94.50. A fancy walnut or mahogany stand often adds to the price in the higher brackets; the same 16-in. globe may cost \$49.50, \$69.50, or \$79.50, depending on the stand. Illuminated globes are priced



TURNABOUT

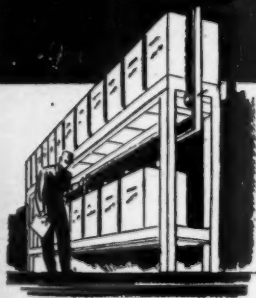
Excess of ilmenite in iron ore once forced abandonment of the McIntyre mines near Newcomb, N. Y. And now National Lead has reopened the property to obtain—ilmenite. Native source of the mineral gained impor-

tance when East Indian imports of titanium (a derivative) stopped, and paint, plastics, and paper makers began casting about for a new supply. Although the mine is 30 miles from a railroad, 30 truck-trailers bridge the gap, bringing out 800 tons of ilmenite (plus 1,500 tons of iron ore) a day.

PHILCO

THROUGH MODERN DESIGN
BRINGS YOU THIS SENSATIONAL

VITRABLOC STORAGE BATTERY



Philco Floté in Vitrabloc is the most attractive industrial storage battery ever made. Pure white, highly glazed, Vitrabloc brightens dark battery rooms.

FOR CONTROL, STAND-BY AND TELEPHONE SERVICE

Even in peacetime, Philco Vitrabloc would be a tremendous advance in storage battery construction. Today, when batteries must do a bigger job . . . when critical materials are a problem—Vitrabloc is a truly sensational development!

Philco Vitrabloc batteries give you greater capacity without increase in battery space. Vitrabloc incorporates the exclusive Philco Floté principle, the only construction spe-

cially designed for modern, full float service. Vitrabloc cells are explosion-proof and spray-proof.

Best of all, no critical materials are used in this vitrified ceramic jar! You can get Philco Vitrabloc batteries on exceptionally low priority!

For advanced engineering and construction in industrial batteries, specify Philco! Call your local Philco Battery representative . . . there's one in every important industrial center!

PHILCO CORPORATION, STORAGE BATTERY DIVISION, TRENTON, NEW JERSEY

REPLACE WITH RUGGED, HIGH-CAPACITY PHILCO BATTERIES

The American "BLITZ"



GAS and the proper heat-treating of parts set the pace for ultimate victory in the field

Just a pair of hands and a small cylinder of alloy metal . . .

Not a completed plane or tank or ship or gun. Just a part! That's all. But it emphasizes the importance of precision heat-treating to give parts the special properties they must have to stand up under stress and cold and heat and sand and ice.

Precise machining alone won't count if the basic properties aren't built into that alloy cylinder first. That's why Gas has taken on the biggest job of its career in thousands of industrial plants. Its development and research of more than twenty years is now being devoted to war. Its skilled fuel engineers are on the firing-line in many plants, helping them produce for war. And all this experience is available to you, if you need help on any industrial heating problem.

Why not call your Gas company today? For the American "blitz" isn't all overseas. Part is at home . . . on parts!

AMERICAN GAS ASSOCIATION

INDUSTRIAL AND COMMERCIAL GAS SECTION • 420 LEXINGTON AVE., NEW YORK

THE TREND IS TO GAS

FOR ALL
INDUSTRIAL HEATING



Resting freely in a glass base, Rand McNally's newest globe can be lifted and turned in any direction for easy orientation. With it comes a plastic tape, scaled in land and sea miles, to measure curved distances accurately.

from 30% to 50% higher than standard models.

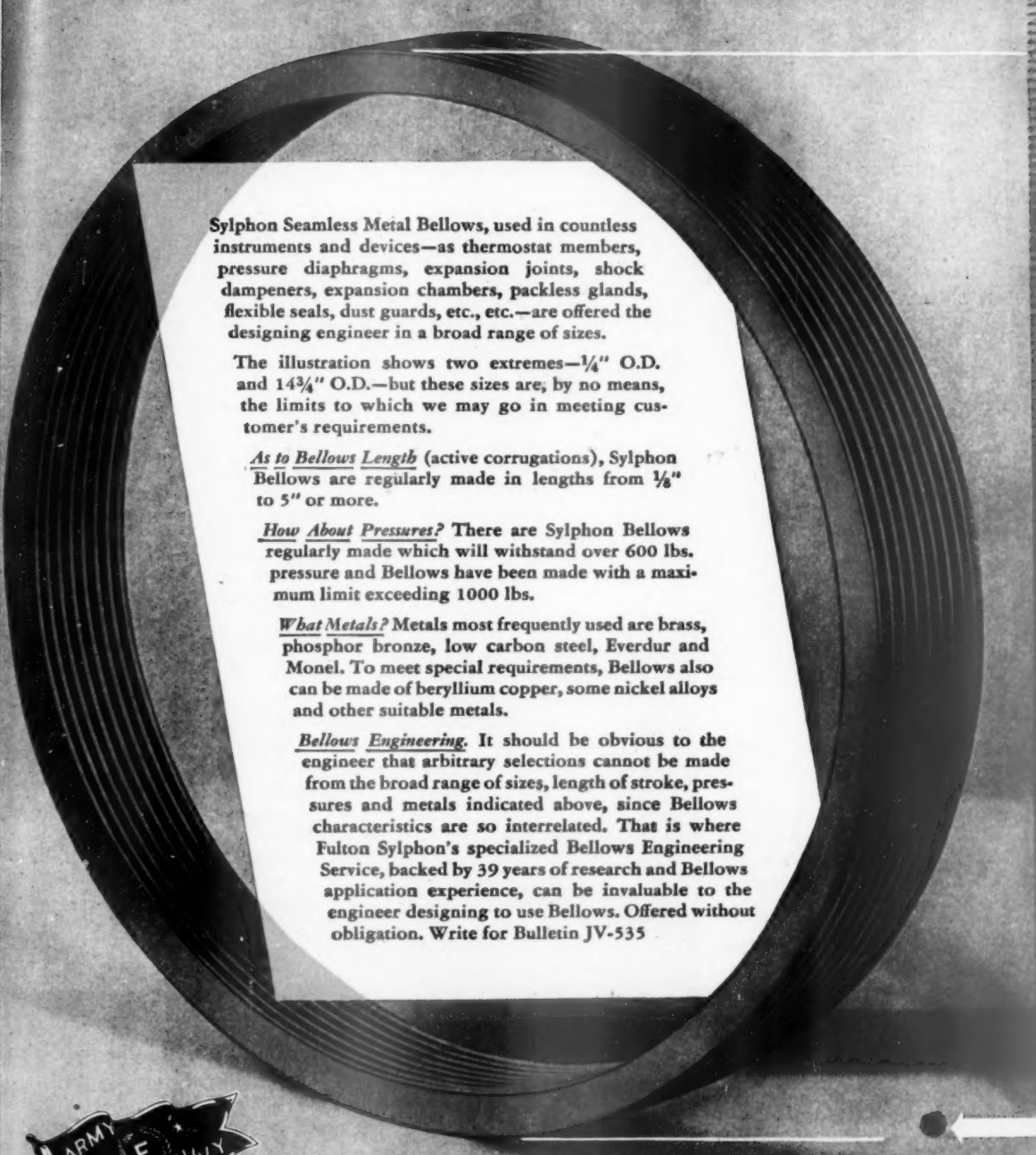
Manufacture of unbreakable steel globes, which are particularly popular with schools, is discontinued for the duration, but other shortages are not serious; wood or fiberboard can be used as an axis, and bookbinders' board, or glass, takes the place of steel for the base. Machine-made globes are made of layers of chipwood and strawboard, pressed into hemispheres and glued together, and covered with a lithographed map. Handmade globes are shaped out of strawboard and covered with plaster; then the map is hand mounted, one gore (shaped like a slice of orange peel) at a time.

Last Christmas saw a run on atlases almost equal to the demand for globes. Most booksellers were entirely sold out, and new stocks didn't arrive until two months later. Currently, deliveries are fairly prompt. A paper-bound atlas that Rand McNally offered last year for 75¢ sold in quantities 20 times as great as its regular inexpensive editions—priced at around \$2.00. To complement the Air-Age Globe, Rand McNally is now bringing out a pocket map with polar projection.

• **Sales of Foreign Maps Jump**—Sales of world maps and maps of foreign countries which usually find little circulation among the general public are estimated to be from 20 to 30 times greater than before the war. A Rand McNally world map brought out eight months ago is now in its third printing; ordinarily a single printing would last about three years.

By contrast, Horder's, Inc. reports that the sale of United States maps for business purposes has barely been able to hold its own since the beginning of the war.

How Large and How Small are Sylphon Bellows Made ?



Sylphon Seamless Metal Bellows, used in countless instruments and devices—as thermostat members, pressure diaphragms, expansion joints, shock dampeners, expansion chambers, packless glands, flexible seals, dust guards, etc., etc.—are offered the designing engineer in a broad range of sizes.

The illustration shows two extremes— $\frac{1}{4}$ " O.D. and $14\frac{3}{4}$ " O.D.—but these sizes are, by no means, the limits to which we may go in meeting customer's requirements.

As to Bellows Length (active corrugations), Sylphon Bellows are regularly made in lengths from $\frac{1}{8}$ " to 5" or more.

How About Pressures? There are Sylphon Bellows regularly made which will withstand over 600 lbs. pressure and Bellows have been made with a maximum limit exceeding 1000 lbs.

What Metals? Metals most frequently used are brass, phosphor bronze, low carbon steel, Everdur and Monel. To meet special requirements, Bellows also can be made of beryllium copper, some nickel alloys and other suitable metals.

Bellows Engineering. It should be obvious to the engineer that arbitrary selections cannot be made from the broad range of sizes, length of stroke, pressures and metals indicated above, since Bellows characteristics are so interrelated. That is where Fulton Sylphon's specialized Bellows Engineering Service, backed by 39 years of research and Bellows application experience, can be invaluable to the engineer designing to use Bellows. Offered without obligation. Write for Bulletin JV-535



THE FULTON SYLPHON CO.

KNOXVILLE, TENNESSEE

Temperature Controls... Bellows... Bellows Assemblies

THE WAR—AND BUSINESS ABROAD

Economic Noose Tightened

No longer boss in Africa, der Fuehrer must either sue for peace or back up to the wall and shoot it out now that the United Nations are opening up the Mediterranean.

Look for major war developments in Europe during the next few weeks, but not for the climactic invasion which is to knock out the Germans.

Hitler is now trapped on the continent. Sixteen-year-old Nazi plans (BW—May 18'40, p17) suggest that Hitler, thus cornered, will (1) sue for peace on terms favorable to the Reich, or (2) intrench himself behind his "impregnable" walls and try to outlast his enemies.

● **Peace Feelers**—Franco, Nazi tool in Spain, revived the peace feelers this week, but Stalin, Churchill, and Roosevelt turned a deaf ear.

The United Nations' plan for action is clear.

The Axis, which broke the bonds of a really effective blockade in 1940 when it overran the continent and then, in 1941, pushed into the rich Russian breadbasket in the Ukraine, must be squeezed back into ever-narrowing confines. The offensive, which the Nazis lost at Stalingrad and Alamein, must be carried into Europe.

Next moves already are taking shape.

● **Shorten Supply Lines**—Pantelleria, Mussolini's would-be Malta (between Tunisia and Sicily), must be snatched, and Sicily and Sardinia stormed. Until they fall, United Nations' convoys cannot safely resume the Mediterranean shortcut to Egypt, Iran, and India. This would shrink supply lines from England or the United States to Egypt by two-thirds, and to Russia (via Iran) and India by one-third.

Sicily will be well defended. It is Italy's southern bastion. When it falls—or if it is temporarily bypassed for a direct assault on the weakly defended lower end of the boot—there is likely to be no important Italian resistance except in the North where Mussolini hastily built the so-called Badoglio Line (BW—May 18'40, p16). From Italy, the United Nations could assault Hitler's Balkan flank by way of Albania and the Yugoslav coast.

● **Corridor to the East**—As soon as the Mediterranean supply route is opened, supplies can be rushed to the eastern strongholds in Egypt, Cyprus, and Palestine for an attack on Crete, Italy's Dodecanese Islands along the Turkish coast, and, finally, on the Balkans through Greece.

Regardless of the success of attempts the United Nations may make to wrest Norway from the Nazis this summer, their chances of gaining their Mediterranean objectives this year are believed to be good.

It is here that economic factors again play a major rôle in the race to knock out the Germans.

● **Synthetic Foundation**—When Hitler moved into Poland and precipitated the war, most people believed that his greatest weakness was the meager supplies of oil under his control. Germany itself had only a few wells in the neighborhood of Hanover. Foundation for the Reich's wartime supplies was a large synthetic industry, extracting oil from coal.

During the first year of war the Nazis augmented these meager supplies with 1,000,000 tons of oil from Russia under the Nazi-Soviet trade pact, by

acquisition of Poland's small oil producing zone, and—the following spring—by huge stores of oil in Holland, Belgium, and France.

● **Hitler's Rumanian Prize**—Only important oil-producing region to fall into German hands was Rumania, where annual output at the time the wells were snatched from the British, Dutch, American, and Rumanian owners more than doubled Hitler's supply.

Twice during 1942, Hitler threatened to improve his oil reserves, once when Rommel's Egypt drive threatened to engulf Suez and a small producing area along the Red Sea, and later when the Nazis' Caucasus thrust brought them to the outer fringes of Russia's greatest field, centered at Baku.

● **Will Use Iran Oil**—Now, with the United Nations in full control of Africa and the Mediterranean supply line soon to be reopened, oil from Iran and the Persian Gulf fields of the Standard Oil Co. of California can help to augment supplies on any front that may be opened in southern Europe. And as the eastern Mediterranean becomes more secure, more oil can be pumped from the Mosul field to refineries at Tripoli and Haifa.

Hitler's oil supplies, at the same time, are threatened by each United Nations advance into the continent. From Italy, the meager output of oil in Albania and Hungary can be bombed, and from Greece, the vital Rumanian fields and



MODEL HOMES

Housing problems in Brazil, resulting from the industrial expansion of the last few years, have been the incentive for a nation-wide building program. Construction of low-cost modern housing and office buildings is being completed in the major cities. Under Brazilian law, each industrial housing project consisting of from 50 to 500 units on government-approved

sites must be within a radius of one kilometer from the occupants' employment. Workers' homes may be purchased for as little as \$250 (U. S. currency), with payments spread over a 15-year period. American industrialists have played a part in this development. For example, Westinghouse acted as purchasing agent for the government on several of the larger projects and also furnished electrical distribution systems.

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They're the ideal modern cutting and polishing tool for the die maker and in the tool room. Industry (aircraft in particular) has found them invaluable for finishing in a great variety of hard-to-get-at places. Available in a great variety of sizes and shapes.

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Asbestos Joe, who can walk through flames, doesn't like fires. He stops them *before they even happen.*

On a carrier deck quick thinking and precise teamwork keep fliers' lives safe. When a plane comes in for a crash landing, with landing gear damaged, partially out of control, the fire-fighters are ready for trouble! A crash wall is set up to stop the plane's momentum. And across the deck they lay down a fire-smothering barrage of carbon dioxide gas. Even if the plane hits hard, there's no blaze.

And so, the U. S. Navy has recorded an amazing safety record. For example, deaths from crash-fire accidents aboard carriers are virtually unknown. Carbon dioxide equipment helped make the record.

In fact, carbon dioxide gets a lot of attention at Walter Kidde & Company. We make it fight flames on carriers, planes, PT boats. And we use its stored-up pressure to inflate rubber rafts.

Also Kidde pressure cylinders handle oxygen for high altitudes; they hold and release other gases used for power actuation and various life-saving devices.

Orders for these cylinders can now be filled promptly, due to increased production. New uses for pressure gases are being found daily. Perhaps they can solve *your* problem. For advice, write to Walter Kidde & Company, 521 Main St., Belleville, N. J.



transport up the Danube can be blasted. This, on top of repeated bombings of German refineries, can ultimately threaten the mobility of Nazi armies and the effectiveness of the Luftwaffe.

• **Other Supplies Threatened**—Nazi supplies of half a dozen other strategic materials are also seriously threatened.

Hitler's main supplies of copper—beyond one mine in the Reich—come from Finland, Yugoslavia, and Spain. Finland's loyalty to the Axis is already wavering. Deliveries from Yugoslavia will be jeopardized by any United Nations advance into Italy or Greece. And Spain's supplies will be more readily available to the United Nations when Germany can no longer pay in badly needed equipment.

Sole supplies of chrome for the Nazi war machine come from Greece and Turkey. Italy and Spain provide all of the mercury. Most of the manganese for the steel industry comes from the Russian mines along the Black Sea. And important supplies of iron ore come from Spain and Sweden, though the resources of France, Belgium, and Poland are very large.

• **Making Good Equipment**—German war industries are still turning out excellent equipment which, according to Allied experts who have examined captured planes, guns, and tanks, suffers in no way from a shortage of materials. Crops so far this year in occupied Europe are reported to be excellent, and Germans will commandeer the bulk of them to cover any shortages in the Reich.

Nevertheless, critics watching the iron band that is slowly tightening around the continent know that it will not be long until vital materials for the Nazi war machine are snatched from the Germans, and the elaborate scheme of economic strangulation will begin seriously to cut into Hitler's war effort.

Germany's CMP

To simplify a complicated materials distribution system, Nazis put trade associations in charge of allotments.

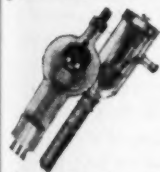
After seven years of experiments, Germany is throwing the problem of priorities and raw materials distribution squarely into the hands of trade associations. This development, which began last fall and is still being shaped up, unquestionably will be pointed to as an example by American advocates of more self-government for war industries.

• **Nazi Systems Watched**—Although German procedures are not generally familiar in the United States, they are followed closely by a handful of influential persons and frequently have an effect on Washington thinking. The develop-



Seconds of electronic heating put years of wear in gear teeth

Two electronic tubes, the G-E phanatron and the G-E pliotron, provide the high-frequency waves used in electronic heating



A development of the science of electronics is working a quiet revolution in factory and war plant.

Electronic heating, the application of high-frequency waves, is doing many jobs faster, at less cost and with more precise localization and control of heat than ever before.

Small gears now can be case-hardened to a pre-determined depth in a few seconds. The hardness pattern may be closely controlled as to size and area limits and a completely uniform product may be turned out in volume, saving

both time and material. Uninterrupted single or multiple operations are readily possible.

In other electronic heating applications, a metal rod may be brazed to its metal bushings and terminals in 11 seconds. A metal shell may be soldered to its metal base in 3 seconds. A glass tube may be fused to a metal base in an airtight bond in 20 seconds. Metal parts within a glass container can be heated white hot—the glass remains cool.

Few heating methods offer such flexibility, accuracy, and uniform results. Electronic heating is today proving its value for war and post-war industry.

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ment of the Controlled Materials Plan, for instance, was strongly influenced by a somewhat similar plan introduced in Germany a year earlier for steel distribution.

The prestige, particularly in military circles, of German industrial control methods probably arises more from Nazi efficiency on the battlefield than from

their intrinsic merits. Even though Germany has been working at it since 1936, effective distribution of materials still is a sore spot with its business men.

• **WPB Claimed Better**—By and large, German officials appear to have demonstrated less understanding of the fundamental problems involved than has the War Production Board. Some Washing-

ton officials admit that both Germany and Britain have done a better job than we have on price control and rationing (BW—Mar. 13 '43, p. 20) but claim American superiority in the distribution of industrial materials.

Germany's reorganization to increase the rôle of trade associations displaced a jumble of vertical and horizontal controls which made CMP and the Production Requirements Plan look like models of simplicity. Vertical control was applied only to steel under the Nazi's so-called "iron check" system.

• **Two Ministries Involved**—First step in the steel setup is a quarterly determination by the Ministry of Munitions and the Ministry of Economics of what portion of the steel supply shall be used for armaments, what for civilian goods. This is based on supply estimates furnished by the iron and steel cartel. When the check system was established, responsibility for steel production, distribution of ores, and the like were transferred from a federal commissioner to the cartel.

Once the armament quota is established, the Munitions Bureau of the Ministry of Munitions takes over. This body is similar to WPB's Requirements Committee but more limited in authority. The bureau makes allocations to the various agencies that place contracts for armament.

• **How Checks Work**—These agencies furnish their contractors with checks authorizing purchase of a definite quantity of steel. The contractor may use the checks to purchase his own steel requirements or may pass on part of the quota to subcontractors or suppliers.

It was somewhat ironical that the United States War Dept. (about a year ago) began arguing for adoption of the steel system since it was installed in Germany as part of an army reorganization. In that shakeup, the Nazi Army lost all its supply functions to the Ministry of Munitions.

(That was around the time that Hitler's intuition displaced the general staff and is usually interpreted as marking the ascendancy of the Nazi party and German industrialists over the army.)

• **Old Setup Complicated**—Materials other than steel were distributed by a horizontal system prior to last fall. Authority for allocations over different materials rested with a score or more of federal commissioners attached to the Ministry of Economics. A manufacturer requiring a particular material had to make application to the commissioner in charge of that material. Thus each manufacturer and subcontractor had to deal with many commissioners.

This obviously involved infinitely more red tape than the American version of a horizontal system—the Production Requirements Plan. Under PRP, a manufacturer submits only one applica-

The High Cost of Bombing

The cost of a single "very heavy" bombing raid on Germany may run as high as 5% of total Allied heavy bomber production for a month.

No simpler answer can be given to those who ask: "Why don't we blast Germany out of the war from the air?" Not until more and heavier planes are rolling off the line will it be possible to hammer Germany night after night with the tonnage of bombs needed to destroy the backbone of the Reich's war industry. And don't forget the problem of bomber crews (BW—Mar. 13 '43, p. 17).

• **Losses Probably 40%**—In February, raids over northwest Europe cost the Allies more than 120 bombers. In March, the cost was 180 bombers. During April, in fewer than a dozen large-scale raids, the toll was 325 bombers.

Last month American four-engine bomber production crossed the 500-a-month mark. Total Allied production is estimated at less than 750 a month. Thus, in one month, admitted losses in one theater of operations probably exceeded 40% of total Allied output.

• **Exceed Cologne Tonnage**—In the communiqués, flights involving more than 300 planes are described as "very heavy"; "heavy" raids and "concentrations of strength" usually imply flights of less than 200 planes. Only a few "very heavy" attacks have been launched this year, but bomb tonnage dropped in these flights exceeds that of the 1,000-plane Cologne raid a year ago.

Raids conducted under particularly favorable conditions and over lightly guarded targets have cost as little as 2% of the planes involved, but the accepted average during the first quarter of this year is closer to 10%, and night-raid landing and takeoff casualties have been estimated at an additional 2%.

• **Would Outrun Production**—Assuming the impossible—that weather would permit 1,000-plane raids every night—with a 12% rate of loss, the monthly expenditure of 3,600 bombers would exceed total four-engine plane production by 400%. Even at a 5% rate of loss, destruc-

tion would surpass production by at least 100% in a month. Fuel consumption by such tremendous air armadas would exceed tanker capacity.

Specifically, the "very heavy" twin raid of Apr. 16 on Mannheim and Ludwigshafen, involving 600 four-engine planes, cost 55 bombers over enemy territory, perhaps another dozen in Britain. Embracing a round-trip distance of more than 800 miles, the raid required a minimum of 900,000 gal. of high-octane gasoline. In personnel, the cost may have exceeded 500. In planes alone, the dollar loss must have topped \$25,000,000.

• **Bremen Toll Heavy**—On the same day, American Eighth Air Force planes took a crack at Bremen with a smaller force but at a cost of 18 bombers—another \$10,000,000—and more than 500,000 gal. of fuel.

Nightly 1,000-plane bombing of Reich industrial areas, averaging 1,000 miles a round trip, would run fuel requirements to over 50,000,000 gal. a month. This amount of fuel could be supplied by 15 or 20 tankers, assuming a turnaround each month and no submarine casualties, but, under actual conditions, would require 40 to 60 tankers—600,000 to 900,000 tons of shipping—depending upon the amount of fuel loaded in each vessel.

• **Other Sectors' Demands**—Most weighty consideration prohibiting night-after-night large-scale raids over Europe is the necessity of keeping big bombers moving to other sectors. In North Africa, for instance, April bomber casualties—many of them Fortresses and Liberators—approached 100.

Certainly now is not the time to expect around-the-calendar bombing of Europe beyond the essential softening-up operations which must precede invasion. In fact, presuming the worst—that the European fortress withstands this summer's attacks—the wait may be until heavy bomber production hits 1,000 a month and the phenomenal 50-ton B-29 is in mass production, perhaps toward the end of 1943.



BUY WAR BONDS AND STAMPS

Balcony Scene

Next time you read a headline that says: "100 FLYING FORTRESSES RAID AXIS," remember this scene. It is one of the reasons such raids are possible, not just on one front alone but in many parts of the world simultaneously!

You are standing on a balcony in the Boeing plant at Seattle. If you are at all familiar with conventional airplane construction, the first thing that strikes you is the "chrysalis" appearance of much of what you see . . . the unusual effect of bodies without wings.

One method of aircraft production is to move the airplane under construction

down a long assembly line, picking up a part here and a part there. Thousands of complicated interior installations are made in the plane as it progresses.

Boeing, by using new and different production methods, has proved that it can build more pounds of airplane structure per unit of floor area than by any other method devised for similar structure. It employs a multiple-line system to *pre-complete* each major section of the Fortress,* including all interior installations. Final assembly is thus simplified into merely a joining and hooking-up process.

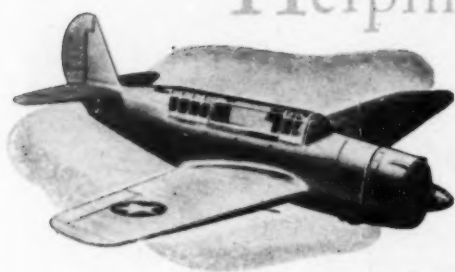
The result is that Boeing has constantly increased its schedules until today its rate of production on Flying Fortresses is more than 4 times greater than at the time of Pearl Harbor, with total deliveries for 1942 eight times those of 1941. Boeing output is highest of any company making airplanes—per man, per machine, per unit of floor space.

When peace is finally won, Boeing production and engineering skills will be turned toward giving you interesting new products, superbly designed. And of any product you can know . . . if it's "Built by Boeing" it's bound to be good.

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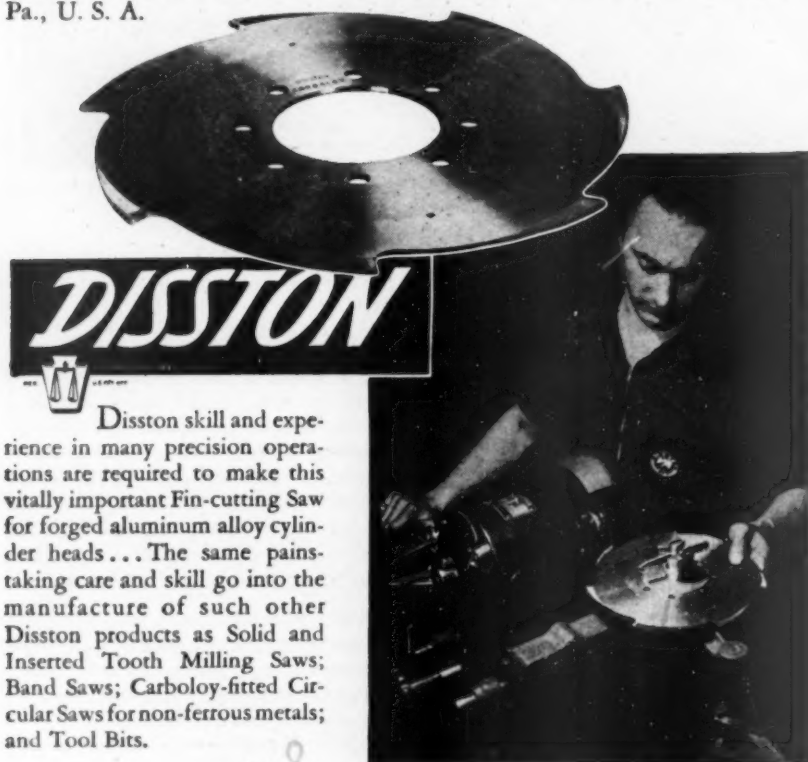
Helping aviation forge ahead!

When the forged aluminum alloy aircraft engine cylinder head was developed to replace the cast type head—another revolutionary advance was made in aviation. Not only did this step up aircraft production—but it gave to the planes of the United Nations a decided superiority in combat—in speed, altitude, load and range.

Milling the fins on this new type head constituted a difficult problem. But Disston Engineering, in cooperation with the airplane motor manufacturer, solved it with a Carboloy-fitted saw—a saw which cuts the fins with hitherto unheard of accuracy and speed.

It is significant that this accomplishment in fine toolmaking belongs to Disston alone. It is as exclusive a Disston achievement as the top quality and craftsmanship you enjoy in such standard tools as Disston wood and metal cutting saws, files, hack saw blades, machine knives . . . and steel.

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Disston skill and experience in many precision operations are required to make this vitally important Fin-cutting Saw for forged aluminum alloy cylinder heads . . . The same painstaking care and skill go into the manufacture of such other Disston products as Solid and Inserted Tooth Milling Saws; Band Saws; Carboloy-fitted Circular Saws for non-ferrous metals; and Tool Bits.

Conserve Man-Minutes and help win the war



tion which is routed to the various commodity divisions corresponding to the German commissioners.

• **PRP Lacks Assurance**—Biggest complaint against PRP, however, has been that it offers no assurance that a producer will not get, say, 80% of his steel needs and only 50% of his copper requirements, thus wasting steel. The German system would tend to increase the chances of this happening.

In its original form, the steel clearing system proved too vertical. There was no provision for direct allocation of steel to producers of standard components, bearings, for example. Such a producer had to obtain materials by allotment from his hundreds of customers.

Throughout 1942, the Germans seem to have been plagued with trouble with critical components. Special committees of technicians were appointed by the Ministry of Munitions to standardize components and, to an increasing extent, schedule their production and distribution. In February, for instance, all orders for machine tools were required to be cleared through such a committee and placed as directed by it.

• **Trade Groups Included**—Germany's basic reorganization left the top structure of federal commissioners and the Munitions Bureau unchanged. But it introduced trade associations as an intervening layer between manufacturers and the government. Individual producers now have no contact with the government. Orders for munitions are placed with the appropriate trade association which parcels them out among the membership.

Correspondingly, an individual producer applies to his association for all the materials he needs. The association staff determines the industry's overall requirements and obtains allotments from the federal commissioners and the steel cartel. Distribution of materials by the association is vertical for metals, petroleum, synthetic fibers, benzol, and mineral oil; horizontal for other items.

• **Success Still Doubtful**—A limit is placed on the vertical nature of distribution by a rule that a subcontractor must obtain materials through his own association rather than from the prime contractor.

There is no evidence yet available showing how well this new system works, but one fact is suggestive. The German system has a unique institution—a sort of Chinese New Year's. Whenever distribution of some material gets hopelessly tangled, all inventories of that material are seized.

• **Steel Tangle Indicated**—Title is transferred to a quasi-public corporation similar to the Reconstruction Finance Corp.'s Steel Recovery Corp. The inventories are redistributed, and the corporation takes the loss on the transaction. In February, the Armament Trading Corp. seized all steel inventories.

H...E...Y...! THAT FAN ISN'T SCRAP!



Uncle Sam needs scrap, but doesn't want you to throw away irreplaceable things—like fans—that contribute to wartime efficiency.

Until the war is won, no more Emerson-Electric Fans are being made for civilian use, because their manufacture involves many critical war materials. All the fans now produced are for the Army, Navy, and other essential War Services.

So, if you own electric fans—no matter what make—take good care of them. Then, when summer comes, their cooling breezes will provide you comfort at your work, help you get refreshing sleep at home, and keep you up to par all through the hot weather season. That is important.

If you own Emerson-Electric Fans, you are fortunate. Their

exceptional quality and long-life construction are greater assets now than ever before—they make your fans worth the care superior products deserve.

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- 2 If they operate satisfactorily, clean them thoroughly, and oil with medium-weight mineral oil, grade SAE 10 or 20.
- 3 If there is any unusual noise or vibration, due to worn parts, or faulty electrical connections, take the fan to your Emerson Dealer or Electrical Repair Shop to determine whether it can be repaired. (Generally, if your Emerson-Electric Fan is not more than 20 years old, parts are available.)

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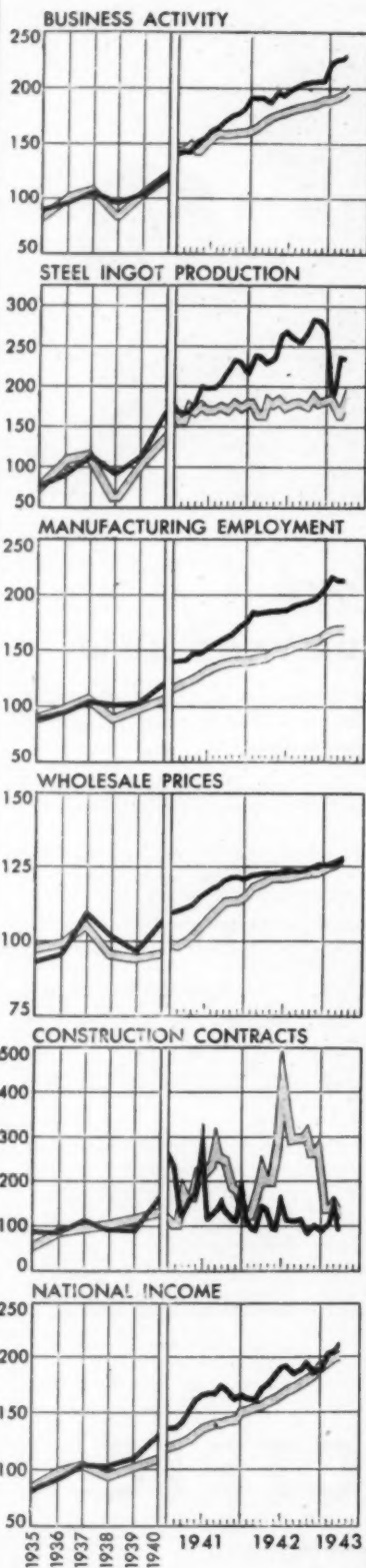
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CANADA

Strike Insurance

Federal board conducts open hearings in search of a formula to head off any further war-production stoppages.

OTTAWA—Canada's National War Labor Board held open house this week for labor and management groups in an effort to stave off a landslide of strikes, lockouts, and disputes impending in Canadian war industries (BW—Apr. 24'43, p74).

• **Hearing Both Sides**—New chairman of the board, Justice C. P. McTague, is hearing both sides and hopes to achieve a revision of Canada's wartime labor code. Setting the tone for open hearings in Ottawa, McTague announced that he hoped to "convert something that has been in the field of pious hope into reality." Before the new code can be drafted, he said, "industry must look on labor with more realism, and labor groups must clean up their own grievances."

Both C.I.O. and A.F.L. say they will settle for nothing less than a federal compulsory collective bargaining law for the duration, with company unions and plant councils barred as bargaining agents. The demand is limited to the war period only, because Ottawa can enact the law under the War Measures Act, whereas normally labor legislation is under provincial jurisdiction.

• **Nonexclusive Bargaining**—Best bet is that the big unions will win a partial victory—compulsory bargaining without exclusive bargaining rights. Only 18% of Canadian factory workers are members of the big unions. Except for some of the larger Canadian plants which have agreements with the unions, and small plants in which relations are on a personal basis, workers in Canadian industry are mainly represented by company and other independent labor bodies.

Main issues between the unions and industry, as stated by the Canadian Manufacturers' Assn., are (1) closed shop and checkoff (a C.I.O. demand unsupported by A.F.L.); (2) wage floor of \$25 a week or 50¢ an hour for all workers with freedom to negotiate for increases; (3) upward adjustment of low wage rates regardless of ceilings; (4) equal pay for equal work throughout the Dominion (a C.I.O. demand aimed at wage conditions in some Quebec localities); (5) full cost-of-living bonus for all workers; (6) removal of restrictions against strikes and positive support for unions from

the Labor Dept. (a C.I.O. demand); (7) labor-management production committees and national industry councils; (8) removal of restrictions against Canadians' taking jobs on U. S. defense projects in Canada at wage rates paid by U. S. contractors to American workers; (9) protection of unions against legal proceedings based on acts of individual members in disputes (an A.F.L. plank). • **Management's Compromise**—The Canadian Manufacturers' Assn. is opposed to compulsory bargaining, but if it is to be imposed, it asks these conditions: (1) unions be held legally responsible for carrying out agreements, and to this end be compelled to register and file constitutions and by-laws, give accounting of finances, hold annual elections of officers to guard against a self-perpetuating officialdom; (2) protection of the right of workers to refuse to join unions, with penalties for intimidation; (3) ban on labor shifts from essential work to secure higher pay; (4) wage increases by bonus only; (5) local wage standards to govern ceilings.

Labor Mobilized

Ottawa goes step further than Washington in making sure workers transfer into essential industries at once.

OTTAWA—Like the United States, Canada is faced with manpower shortages in many essential industries. Unlike the United States, Canada has legislated a straitjacket for employees and employers in order to guarantee the best use of labor.

Last October, National Selective Service quietly placed industries and businesses in categories of essentiality and encouraged management to scrutinize staffs for employees who could be spared for more essential work (BW—Oct. 24'42, p80). Last week, through newspaper advertisements, Selective Service put teeth into the manpower controls recently authorized by orders in council (BW—May 1'43, p60) by designating employment no longer available to draft-age men, set May 19 as the final date for reporting such employment.

• **Enforcement**—Responsibility for compliance with the order rests equally upon employer and employee. By May 19, employees in listed occupations and industries must report to an Employment and Selective Service Office, and after that date, they must accept transfer to essential work or face compulsory

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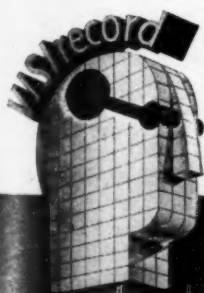
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OFFICES IN PRINCIPAL CITIES

Copper—Life Saver

Huge quantities of copper and brass are required each month to provide equipment for use of the U. S. Army medical department in hospitals and front line dressing stations.

Paradox

Industry finds one cheering note in the grim business of producing the materiel of World War II. It is the knowledge that production is not confined solely to fashioning tools of destruction. Many of the raw materials of munitions are also used to manufacture the implements of healing.

Copper, for example, is one of the metals playing this dual role. It is used for bullet jackets—but it also saves the lives of soldiers. The Army medical department alone needs at least



MOBILE X-RAY

375,000 pounds of the gleaming red metal every month. Four tons of copper are required each month for mobile X-ray field units. With the aid of such units, surgeons swiftly locate and extract bullets and shrapnel. Twelve tons of copper each month go into syringe needle parts for the Army—half a ton just for oxygen tents.

Men and women of The American Brass Company, America's No. 1 producer of copper and brass, work fast today because they realize the urgent need for copper to build operating lamps and other life saving apparatus.

War Sense

For the first time in the history of our coinage, the familiar U. S. one-cent piece is being made of materials other than copper. It will be a zinc-coated steel coin for the duration. A billion and a half copper pennies were made during 1942. Into them went 4,600 tons of copper, vitally needed today for munitions and other war

materials. The copper saved this year will be enough for the rotating bands on more than 2,000,000 shells for one of the army's big field guns.

Aid for Allies

From The American Brass Company's immaculately kept French Small Tube Branch go daily shipments of special copper tubes—headed for the perilous Russian convoy routes. These tubes, small in size and amazingly precise, go into the cooling systems of Soviet tanks and airplane engines.

From this same plant, the U. S. Navy gets seamless copper tubes—1,000 feet long, for liquid level gauges. Here, too, are drawn copper and copper alloy tubes of many shapes and sizes for delicate pressure gauges and temperature control devices used in the production of war materials and machines.

Wawkus Bird

The mythical wawkus bird flew backward because he was more interested in where he had been than where he was going. Modern counterpart of



TAIL GUNNER

the wawkus is the tail gunner of American bombers such as the Boeing B-17 Flying Fortress.

During World War I, many a pilot bailed out or was killed because the enemy "got on his tail." It was a totally unprotected blind spot. It's a different story today—the tail gunner of the big bomber wields a mighty twin-stinger in the shape of two machine guns which spew forth destruction in the form of bullets jacketed with a 90% copper alloy—fired from cases made of 70% copper, 30% zinc. This is copper in another life saving role—for our side.

©1944 A

service under wage and other conditions applicable to conscientious objectors.

After May 19, it will be illegal for an employer to retain in his employ a draft-age man without a special permit from National Selective Service.

• **Nonessentiality**—The First Compulsory Employment Transfer Order applies to employment in the following industries:

Taverns; liquor, wine, and beer stores; retail sale of candy, confectionery, tobacco, books, stationery, news; barber shops and beauty parlors; retail and wholesale florists; gasoline filling stations; retail sale of motor vehicles or accessories; retail sale of sporting goods or musical instruments.

In addition, the order applies to the following occupations, whether in the above industries or not:

Waiter, taxi driver, elevator operator, hotel bell boy, domestic servant; any occupation in or directly associated with entertainment, including but not restricted to theaters, film agencies, motion picture companies, clubs, bowling alleys, pool rooms; any occupation in or directly associated with dyeing, cleaning, and pressing (not including laundry work), baths; guide service; shoe shining.

• **Classes Covered**—All men subject to military service, ranging from 19 to 41 years of age, are covered by the order. This means (1) every man 19 to 25; (2) every man 25 to 41 who is unmarried, divorced, or judicially separated; and (3) childless widowers.

Occupations to which men subject to transfer are most likely to go include farming, coal and base metal mining, sawmills, fisheries, and certain manufacturing industries.

SUGAR POOL

Two Canadian sugar refineries have voluntarily pooled production for the duration, moving all office and production personnel into one plant and conducting separate marketing and trading operations from a single home office.

St. Lawrence Sugar Refineries, Ltd., has moved into the Canada & Dominion Sugar Co. plant in Montreal. Production will be pooled until such time as increased imports of raw sugar, followed by larger rationing quotas and general expansion of business, justify resumption of separate operations.

Under the initial arrangement, no contribution of manpower to more essential industries will result, but uneconomic plant operations will be effectively eliminated to the benefit of both companies.

FLYING RECORDS

Canadians, though they resent the fact that operation of the North Atlantic ferry service to the United Kingdom was taken away from them by British Overseas Airways Corp., watch with intense interest each new time record set by

Published in the interest of a better informed war effort by

THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Connecticut

Subsidiary of Anaconda Copper Mining Company



Don't fire over! Fire on!"



GLASS workers talk a strange language. At Corning, for instance, to "fire over" means to quit work. To "fire on" means to keep on working.

So when the folks at Corning looked for a phrase to express their attitude toward war work, they hit on one in glassmaker's talk. "Don't fire over! Fire on!"

Somehow these words typify the war effort of the entire American glass industry. Few people realize, with all the talk about planes, ships, and guns, that glass too is an essential fighting material—in homes, in factories, and on the battle lines. And even fewer realize how quickly and efficiently the glass industry turned from peace to help its country in war.

Take Corning as an example. Here are a few of literally thousands of glass items, many of them secret, that spring from years of research and know-how to lend a vigorous helping hand to the war program: Glass piping to replace vital metals. Railroad, marine, and aircraft lighting equipment. Blood bank bottles. Light bulbs for war plants. Optical glass for gunsights. All kinds of heavy glass parts for the chemical industry. Glass jewel bearings for delicate electrical instruments.

For contributions like these, the workers in the Corning plants were honored early this year with the Army-Navy "E" production award. In the picture above, Tony Maio and his wife are

shown getting their "E" pins. They have five sons in the service. And like all the glass workers in all of America's glass plants, they know how important it is not to fire over—but to fire on! Corning Glass Works, Corning, New York.

CORNING
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Research in Glass



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TRANSPORTATION—a vital war factor

The effectiveness of our armed forces and civilians alike depends on the efficiency of our transportation

As the battle of Tunisia entered its final phases, with the British and American forces joining hands to crowd Rommel into his last fox hole, Hitler and Mussolini held their twelfth war-time meeting.

One important purpose of this meeting, according to the Berlin radio, was the study of a specially prepared "Survey of Continental Reserves". Topping this list of resources is the item of transportation.

Hitler has a great many headaches these days but, according to no less an authority than the Reich Ministry of Economics, "the central problem of the whole German war effort is transportation". It is, in fact, the Achilles' heel of Germany's War Machine.

The Nazis have become soberly conscious of its crucial importance and Mr. Hitler must wince when he recalls the gigantic miscalculations which led him to neglect his railways.

He counted on a short war, not a long wear-and-tear war and Germany's transportation crisis is getting more critical by the hour. It will play a vital part in its defeat.

This is a war of movement—on land, on sea and in the air. Russia's 2,000 mile battleline, R.A.F.'s 700 mile bombing raids, General Montgomery's 1,500 mile advance last November and the vast area that constitutes the theatre of war in the Pacific make this fairly obvious.

Peace will come when one side gets control over the world's supply of fuel, oil and rubber, for on these three critical materials depend all the vehicles of war—as well as of peace.

An army used to travel on its stomach. Today it travels on its fuel tank.

On the home front, transportation is no less vital. Here it is essential in getting the war workers, their raw materials and their products, to and from the mines, mills and factories that supply our armed forces and those of our Allies. Transportation is a major factor in the nation's ability to out-produce its enemies. Every

known method, every type of vehicle becomes essential, for no single group of carriers, freight or passenger, can meet all our needs.

The railroads opened the vast resources of our nation and continue to be the backbone of our transportation system. Today they are doing the greatest job in their history. They are hauling more tons of freight more miles than ever before—33% more than in 1941 and 55% more than in 1918, peak year of the first World War. They are carrying more passengers more miles than ever before—80% more than in 1941 and 24% more than in 1918. They are getting more work out of each car, each engine, and each mile of track than ever

before. Private operation of railroads is proving far more effective and efficient in this war than did government operation in the last war.

In contrast to Hitler's Germany, the managers of the American railroads have not neglected their plant except where government priorities forced them to do so. They are turning in an unprecedented performance despite the long starvation period to which they were subjected. During the first World War the total investment in the American railroad plant was about \$18,600,000,000. Since then

\$12,000,000,000 have been spent on improvements and after deductions for scrapped facilities the net increase has been \$8,000,000,000. Since the present war in Europe began the railroads have invested about \$1,650,000,000 in further improvements, many of them to meet special war needs.

Convincing evidence of the railroads' flexibility in meeting the special needs of all-out war is their performance in coping with the movement of oil to the East Coast. In January 1942, one month following Pearl Harbor, the railroads delivered to the East Coast by tank car less than 100,000 barrels daily. By December they had stepped this up to more than 740,000 barrels and during the week ended April 3, 1943 they

This is the eleventh of a series of editorials appearing monthly in all McGraw-Hill publications, reaching more than one and one-half million readers, and in daily newspapers in New York, Chicago and Washington, D. C. They are dedicated to the purpose of telling the part that each industry is playing in the war effort and of informing the public on the magnificent war-production accomplishments of America's industries.

averaged more than 900,000 barrels per day. By the end of this year they are shooting for the goal of one million barrels a day.

Unlike Germany we have not attempted to control the development and growth of motor transportation according to the "intuitions" of one man but have wisely left it in the hands of experienced competition. That is how our highway transportation system came into being. Growing public acceptance has made it an essential part of our national economy.

The motor vehicle, its limitations set only by the improved highway and the supply of fuel and rubber, has developed to undreamed of proportions. Up to a year ago private automobiles consistently moved more people more miles than all public carriers combined. Buses have become an accepted means of mass transportation. Local electric and interurban railways in many cases were converted to bus lines and trucks took over the local freight services. Under these improved operating conditions traffic volume increased. When the war in the Pacific made it necessary for us to conserve our supply of rubber and the U-boat depredations in the Atlantic throttled the flow of gasoline to the eastern seaboard, our motor transport was forced to grapple with the toughest problem that ever had confronted it since it became so vital a factor in the every day transportation.

The "share-the-ride" idea recognizes the need of conserving gas, oil and rubber. This particularly applies to buses, for wherever groups can be assembled for a common destination, buses can be used most effectively. The intercity bus performs for the rural areas the same service that the local bus renders for the residential areas of our cities.

Reorganization of railroad schedules, adaptation of motor transport, rearrangement of working hours, all have contributed to provide a flexible transportation service for men and materials to meet the critical needs of the war effort. Twenty thousand intercity buses are handling 635 million passengers a year which is 69 per cent more than in 1941. The fact that these buses carry a relatively larger percentage of the total coach passenger business than their seating capacity would indicate suggests that here, too, we are getting a more efficient use of these vehicles in terms of passenger loads carried. It is fortunate to note that the geographic location of most intercity bus lines does not coincide with that of the railroads but rather supplements it.

The contribution which the urban transport industry is making to the war effort becomes apparent when we consider that buses, trolley buses and street cars today carry passengers at a rate which promises to exceed the impressive total of 21 billions, as compared with 18 billions in 1942 and an average of 13½ billions for the period 1936 to 1941. And this the industry is accomplishing with a minimum of added equipment and despite a serious drain on its manpower.

The truck lines, too, are setting all-time records. They have rearranged their schedules, eliminated cir-

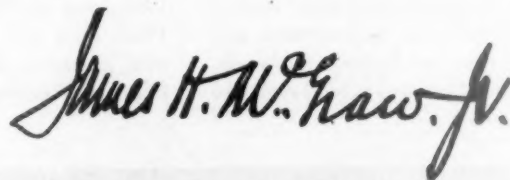
cuitous routes and coordinated their services with those of other carriers. As this is written, contract truckers with the cooperation of the Office of Defense Transportation are trying to eliminate the empty return trip.

The transportation industry as a whole is face to face with the biggest job in its history. Increasing traffic loads, with little if any new equipment, difficulty in obtaining essential maintenance materials and a growing shortage of manpower, combine to make it that. While federal authorities, acting through the Office of Defense Transportation, took prompt cognizance of this condition, froze equipment and otherwise acted to conserve the vehicles then in service, it was not possible to add sufficient vehicles to keep pace with the increased traffic demand. However, the O.D.T. did lend impetus to the movement for staggering hours of work thereby spreading the peak loads and thus increasing the carrying power of existing fleets of vehicles in city service.

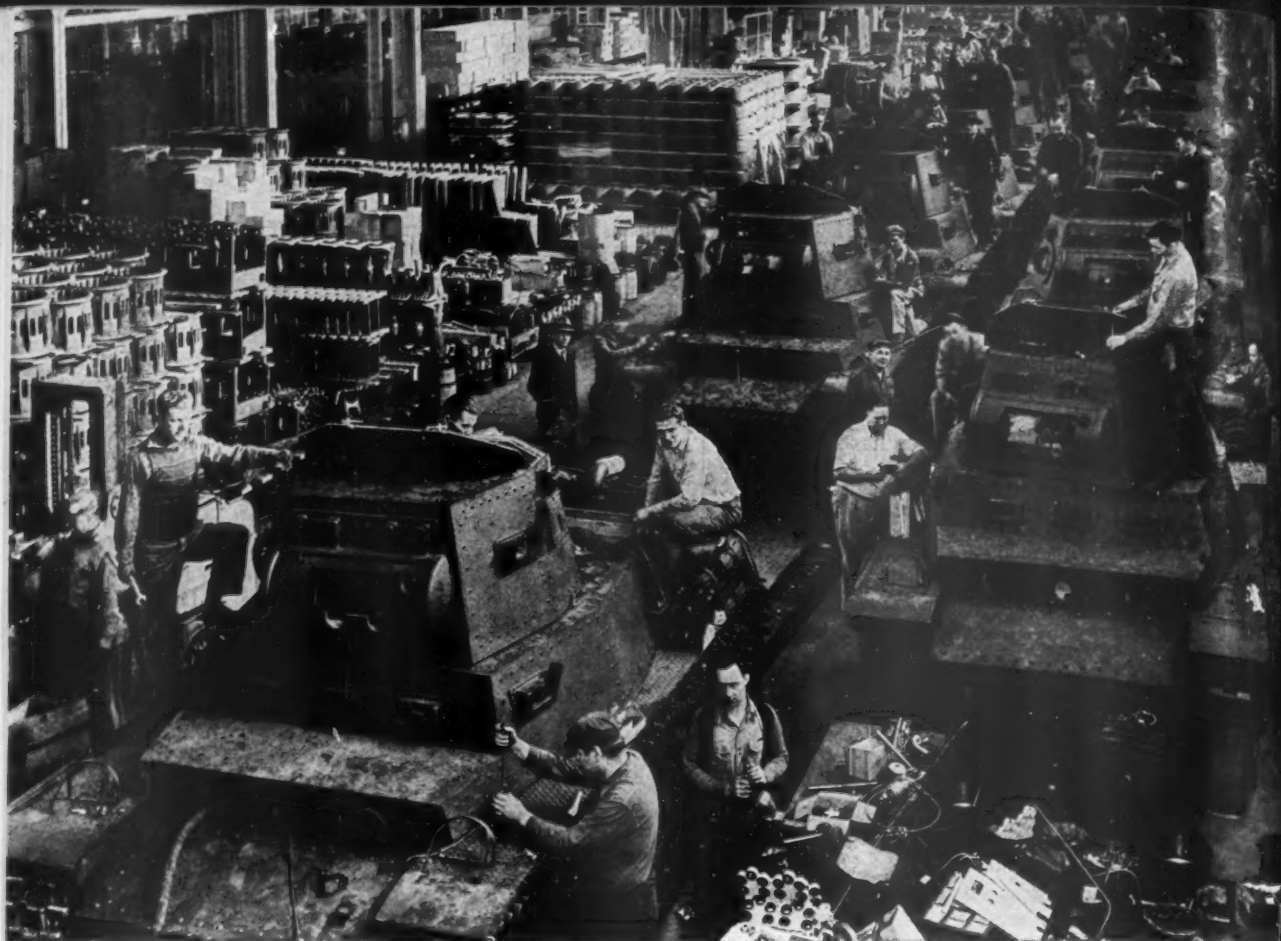
As we review the problems involved in meeting our transportation needs it is evident that we cannot depend upon new equipment alone for their solution. Lend-Lease is taking a considerable share of our much needed output of transportation equipment. The immediate job is up to the rank and file of the transportation industries. It is up to their resourcefulness and devotion to their job. The operating men out on the road, the men in the shops who keep the equipment going, who make the most of the metals and other materials they can have, who salvage, conserve and economize . . . these are the men who must bear the burden of our war load.

Theirs is a dramatic story, a story of cooperation and coordination . . . of ever increasing capacity on a shoe-string allowance of new equipment.

For this is a war of movement. According to Joseph B. Eastman, Director of Defense Transportation, both the passenger and the freight traffic on the railroads is to a large extent war traffic—the transportation of troops and civilians on war business, the movement of food, raw materials and finished products required for the prosecution of the war. As Mr. Eastman put it, delayed arrival of troops at embarkation ports, delayed delivery of vital war materials could even conceivably mean the loss of men at the fighting front. And what Director Eastman says of the railroads applies to all forms of transportation. Transportation by bus, by street car, by truck, by train, by ship and by plane . . . all play a vital part in the achievement of victory . . . on the home front and on the fighting front which relies upon it.



President, McGraw-Hill Publishing Company, Inc.



"TITHING" FOR VICTORY

***NO** OTHER INDUSTRY has co-operated so fully with employee war bond purchases as the automotive industry. Men and women of the nation's great automobile plants are digging down into their jeans, to the tune of \$4,250,000 a week to "keep them rolling, and flying, and sailing."

Eighty-five percent of these men and women are investing 10% of their earnings or more in war securities.

Here, at Marmon-Herrington, we are building trucks, tractors and combat tanks. We are building them as good, and as fast, as we know how. But we know that this effort, important as it is, is not enough. So we, management and employees alike, are buying war bonds, too, on a scale that proves our loyalty to



our country, and our faith in the future.

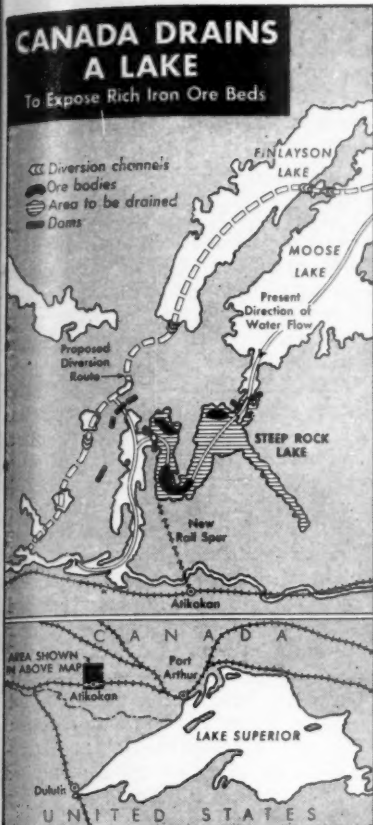
And just to make it emphatic, for one week our employees increased their purchases of War Bonds and Stamps to more than four times their regular investments on the Payroll Deduction Plan. They did it themselves, on their own initiative, and with the greatest imaginable enthusiasm.

For Marmon-Herrington employees know what this war is about. They have had reports and seen photographs of the equipment they, themselves, have built, that is now in operation in Egypt, Libya, Alaska, the Solomons, Australia, New Zealand, China and Russia. They know how many days and months it took to build that equipment, and have a better idea than most what more it will cost to win this war.

The Axis powers have made many miscalculations—but none more serious than the belief that Americans were all money grabbers, that we were all lazy, pleasure-mad and soft. They are finding out now that we can fight on the home front, as well as on the battlefield—and that is saying much.

MARMON-HERRINGTON

INDIANAPOLIS, INDIANA



To get at 32,000,000 tons of iron ore under Steep Rock Lake, 125 mi. northwest of Port Arthur, Ont. (BW—Oct.24'42,p79), Canadian engineers are about to pump 320,000,000 tons of water from the lake. With diversion of water flow through Finlayson Lake the No. 1 job, 300 picked workers, fresh from the Saguenay power project in Quebec (BW—Feb.13'43,p52), are at Steep Rock. It will take a year to drain the lake, but open-face extraction can begin when the level is down 60 ft., and 1,000,000-ton output is scheduled for 1944. Steep Rock is billed as the only hard-ore source on this continent and may reduce scrap requirements of U. S. steel mills by 85%.

BOAC pilots delivering bombers to London.

Last week a fully-loaded Liberator bomber slashed the flying time between Newfoundland and Britain to 6 hours and 12 minutes. More significant to the commercial traveler who anticipates regular air hops to the British capital after the war on giant transatlantic clippers was the bomber's record flying time of 11 hours 12 minutes from Montreal.

London, they note, may soon be closer than Canada's West Coast cities.



This little pig went to Shangri La

LONG a military secret, details of the bombing of Tokyo re-emphasize this vital fact: the recent increase of American raids on Axis cities would never have been possible without the recent spectacular development of this nation's aluminum industry.

Each year since 1939, this great industry has made giant strides in increasing production. Before the end of 1943, it is estimated that production of metal will be at the rate of 1,050,000 short tons a year—seven or eight times 1939 production—and an important percentage of this amount will be made by ore reduction plants in Washington and Oregon served by Northern Pacific Railway.

Northern Pacific freight cars roll up to these plants with alumina ore, roll away with aluminum pig for fabricating plants. To keep our boys flying over the world's battlefronts, we keep these cars "flying" too, over the "Main Street of the Northwest".



"MAIN STREET OF THE NORTHWEST"

FOOD

Fewer Shrimp

Shortage of manpower and boats threatens supply at time of large demand, and new cleaning process is slowed.

Just at the time when the seafood people were prepared to go to town on mechanical cleaning of shrimp, it appears that OPA ceiling prices are going to make trouble. Further complicating matters is the announcement from Coordinator of Fisheries Harold L. Ickes that the canned shrimp pack for the first quarter of 1943 was down 20% from a year ago.

• **Facts About the Pack**—Ickes' figures on the pack don't mean much, however. Few shrimp are packed in January, February, and March; the main packing seasons are April through June and August through Christmas.

Last year's August to Dec. 31 pack was 518,425 cases compared to 560,534 cases the year before for the same period. The 1942 spring pack was 72,005 cases; in 1941 it was less than 9,000 cases because the war demand for food in cans hadn't begun.

• **Changes in Cans**—There are 48 No. 1 cans to a case, but since July 1, 1942, the cans contain more shrimp—7 oz. by wet pack instead of 5½, 6½ oz. by dry pack instead of 5, to save tin. (The case figures above are adjusted to the new contents of cans.)

Manpower shortages in fishing and processing operations and lack of vessels will lower the 1943 harvest; many of the larger trawlers have been taken over by the armed forces. Last year 150,000,000 lb. were produced, but shrimpers doubt if this year's catch will be much more than half that.

Over 90% of the canneries now have federal inspectors, inspection cost being paid by the canneries. This is a voluntary control brought about by conditions in the industry prior to 1935. Shrimp are the only canned product entirely under federal supervision.

• **Troublesome "Sand Vein"**—Boon to those who serve fresh shrimp in volume was the growing shift to mechanical cleaning. That unappetizing little black line you sometimes find along the shrimp's back in your seafood cocktail is the intestine, politely known in the trade as a sand vein.

Although canners have long offered a fancy pack of shrimp de-veined by hand, frozen shrimp mechanically de-veined are relatively new. Booth Fisheries Corp. supplies them to the

restaurant and institutional trade by agreement with Colter Corp., subsidiary of Kroger Grocery & Baking Co., which has exclusive retail distribution. Right now, no de-veined shrimp are available to either institutional or retail users, since last fall's pack has been gobbled by meat-rationed consumers.

• **Price Difficulties**—This week, as shrimp production neared its spring peak, Booth Fisheries Corp. warned that unless OPA can be persuaded to revise price ceilings to include the cost of de-veining (which adds 3¢ to 5¢ a lb. to wholesale prices), scullery help may have to go back to digging out the sand vein with a paring knife. Despite the extra cost of processing, Kroger customarily features de-veined shrimp as a leader, even selling them slightly below the market price for the unprocessed variety.

Inventor of the de-veining unit is Paul V. Grayson, a consulting engineer who has also attracted attention with his experiments in stratosphere freezing of fish en route from Mexico to New York. The de-veining machine itself is comparatively simple. It carries the shrimp upside down on an endless belt over a saw, which slits the shells and scoops out the sand veins.

• **Two Plants Set Up**—A single machine can de-vein from 600 lb. to 800 lb. of

shrimp an hour, depending on the skill of the four operators required. Booth operates one machine at its Dallas plant; Colter Corp. maintains 25 to 30 machines at Palacios, Tex., to supply Kroger stores.

Mechanical de-veining wastes no more of the meat than a hand job. It has other advantages, besides the obvious one of lower cost: (1) Those shrimp with a pronounced iodine flavor taste better if de-veined before cooking, and cooking is prerequisite to hand de-veining; (2) after mechanical de-veining, shrimp are easier to shuck.

• **Small-Catch Prospect**—Faced with the biggest-ever demand for shrimp, the fisheries bemoan the prospect of a below-normal catch. Most U. S. shrimp come from the Gulf of Mexico, although some are taken from the Pacific Coast. Gulf shrimp are larger, running 20 to 28 to the lb., while those from California (prawns) run 50 to 60 per lb.

Shortage of boats and manpower and restrictions on movement of boats after dark—common wartime handicaps to all fishers—hamper the shrimpers. Also, some of the best shrimp waters in the Gulf are reserved for bombing practice.

• **Growth of Demand**—No mere phenomenon of rationing, the demand for shrimp has been growing steadily for the past ten years. Latest U. S. Dept. of Interior estimate of annual domestic shrimp production is 150,000,000 lb. in 1940—compared with 123,000,000 lb. as recently as 1936. Imports are small:

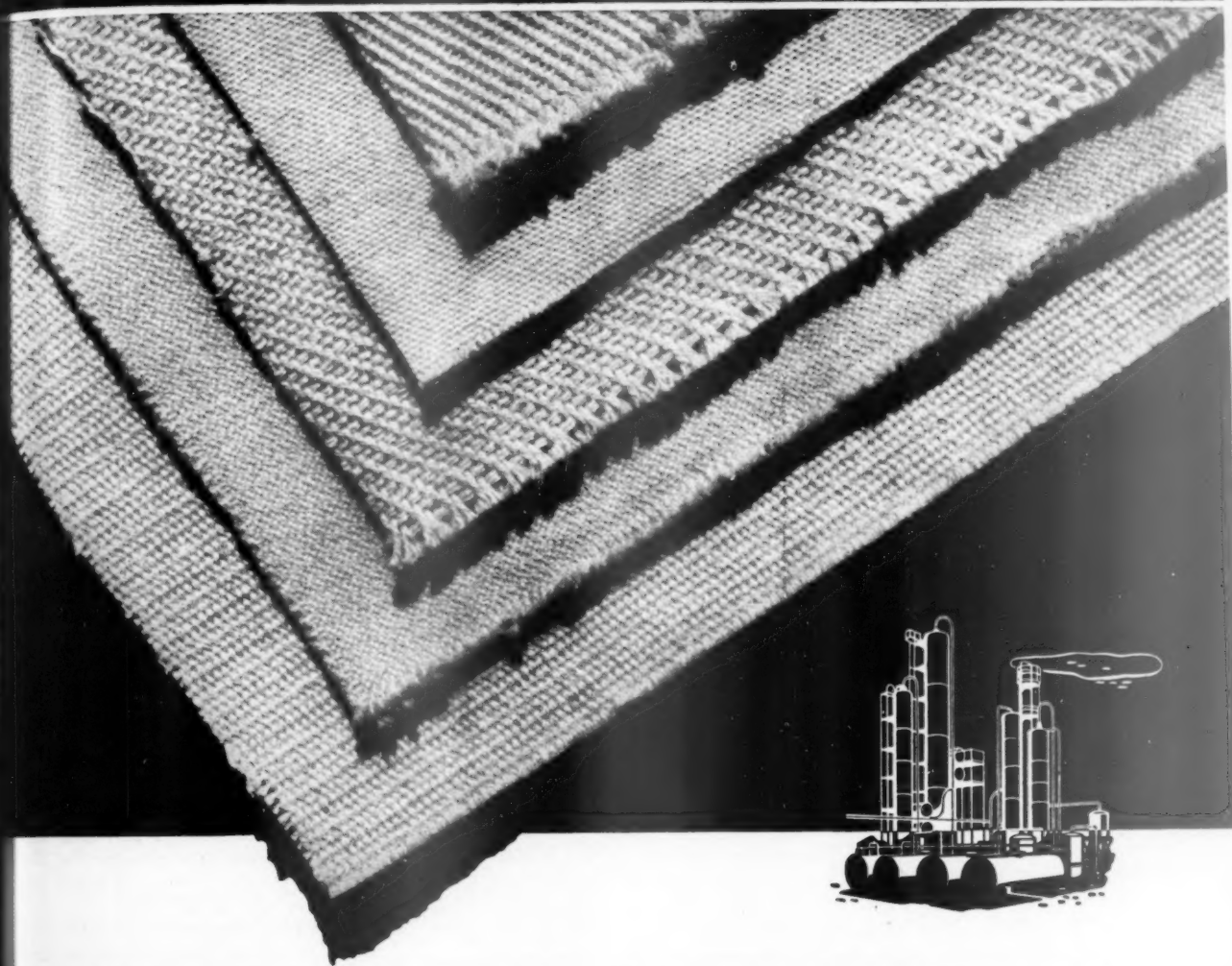


GLOOM IN TEXAS

Empty chicken cages and gloomy farmers reflect OPA's refusal to hike producers' price ceilings in the nation's No. 3 poultry area—Gonzales County, Tex. Claiming that production costs have skyrocketed, with feed

costs now 75% higher than in January, 1942, farmers say they are being squeezed out of business under their 27¢-per-pound ceiling. Refusing the demand for a 6¢-a-lb. boost, OPA contends that poultry raisers are in good shape that only a small minority of producers are complaining.

There Are "Styles" In Industrial Fabrics, Too



HOOPERWOOD "Canvas Engineering" is solving processing problems in many industries.

While not as spectacular as the fire-, water-, weather- and mildew-resistant HOOPERWOOD Duck which offers protection to men, equipment and supplies on far-flung battle fronts—these "home front fabrics" are helping to produce many of the vital materials of war and the peace to follow.

For instance, HOOPERWOOD Filter Cloth and Blankets are made in almost countless variations of cloth construction to meet the exact filtering requirements of each individual processing operation. They are widely used for animal, vegetable and mineral oils, ceramics, drugs,

chemicals, extracts, dyes, paints, pottery, sugars, soaps, etc.

In many cases, HOOPERWOOD Special Finishes speed filtering operations and cut costs, provide longer filter cloth life by protecting it against mildew and caustic deterioration.

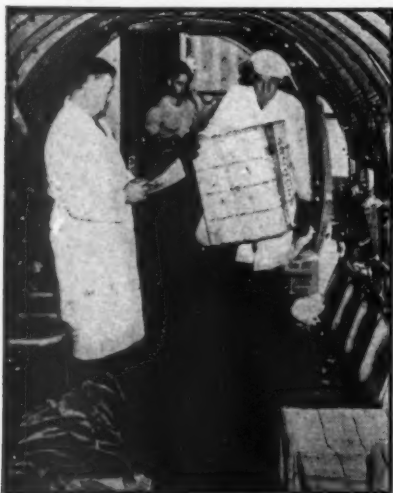
Yes—from the seats of "jeeps" to the miles of Cotton Dryer Felts in mammoth paper mills, you will find HOOPERWOOD "Engineered Fabrics" serving the purpose better and more economically.

WM. E. HOOPER & SONS CO.

New York PHILADELPHIA Chicago
Mills: WOODBERRY, BALTIMORE, MD.

Since 1800 (through six wars) the HOOPER name has symbolized highest quality in Cotton Duck and other Heavy Cotton Fabrics, Paper Mill Dryer Felts, Filter Cloth, Rope and Sash Cord

HOOPERWOOD COTTON DUCK



FRESH FROM THE FARMS

How to provide lunches for ever-increasing numbers of workers in the face of dwindling food supplies plus rationing has most plant cafeteria managers on the horns of a dilemma. Company gardens, farms (BW—Apr.

10'43,p20) may do the trick once crops are in, but concerns like Douglas Aircraft, which serves 3,000,000 meals a month, making it the nation's largest food buyer and consumer, haven't time to wait. So when a shortage looms in a Douglas plant, one of 30 food scouts is flown to sections where produce is available and contracts to buy the entire output of farms (above). Harvested crops are trucked to the nearest Douglas plant, then reshipped to the concern's 37 cafeterias and 13 canteens—one-fifth going by air (left). Weekly cargo planes, sent from California to Chicago for meat, bring the Windy City West Coast citrus fruits. The Denison Engineering Co., Columbus, Ohio, is keeping its source closer to home. North of the city, 650 acres are operated by the firm, half in produce, the rest in livestock (below). Surpluses will go to company stores for employees to take home, but rationed foods will require ration coupons.



not more than 4,000,000 lb. in 1940, chiefly from Mexico.

Ten years ago, during peak seasonal runs, the selling price of fresh green shrimp (i.e., raw, with heads removed) at producing points was 5¢ to 10¢ a lb. By 1941, it had risen to 12¢ or 16¢; since the war it has gone as high as 40¢. Retail prices have kept pace: From about 30¢ in 1933, they have risen to around 60¢ now—and even 80¢ in eastern markets.

• **Problem in Volume**—Although de-veined shrimp now represent not more than 3% of total production, postwar prospects are decidedly rosy, especially in the retail field. Kroger claims it can't begin to supply the demand—that once housewives discover they can avoid the messy job of cleaning shrimp they won't buy any but de-veined.

But hotel stewards and restaurateurs may swing back when kitchen help becomes cheaper and more plentiful. Lacking an accurate breakdown of costs, they are inclined to feel that the scullery hands they have to keep around anyway can do the job cheaper. Booth hopes to overcome this before long by reducing de-veining costs.

Sorry; No Smelt

Green Bay's run of these silvery fresh water fish just didn't come. Dead ones clutter bottom; experts baffled.

The northwestern Lake Michigan fishing industry now knows the worst about the great smelt mystery (BW—Mar.20'43,p42). Hope for a run this year has been abandoned, and there also looms the ominous possibility that the fish are gone for good. The smelt appear to be just dying off.

• **Other Fish Appeared**—The bad news was made official last week when Fred A. Westerman, chief of the Michigan Conservation Dept.'s fish division, announced that the smelt season had come and gone with the catch a total failure. He backed his pronouncement with the evidence that the smelt were the only fish that did not make their run this spring.

Disappearance of the smelt is a blow to food officials who expected 2,000,000 lb. for the armed forces and additional tonnages for civilians. Fresh water smelt were just catching the public taste both as a meat extender and as a fish delicacy. The Green Bay region supplied 95% of the market.

• **They Never Came Back**—During January and half of February, fishermen were hauling in smelt through holes in the ice at the rate of 2,000 lb. to 5,000 lb. daily. It began to look as though the big run was getting under way. Then

OF COURSE YOU'LL BE USING MAGNESIUM



It helps solve
your manpower problems

The lighter weight of portable tools—grinders, drills, hammers, made lighter with Mazlo Magnesium parts—is speeding many a war job. Workmen can be less husky, and in many cases women can take over, because they've less weight to handle. The work goes faster, with less fatigue.

Mazlo Magnesium castings went into thousands of such tools until the war assigned magnesium to work elsewhere. Its high strength-weight ratio was needed in airplanes, but the lighter weight of those prewar portable tools continues to help solve today's manpower problems.

The higher machining speeds obtained with magnesium are also aiding production

of war equipment. American Magnesium Corporation, with more than twenty years' experience in working with magnesium, can help you take full advantage of this property. And, thanks to this same experience, American Magnesium products are tops in quality.

The properties of magnesium that make it so desirable for wartime products also will fit it to your peacetime needs. Our experience in designing for production in magnesium, our skill in making the parts, is yours for the asking. Sales agent for Mazlo Magnesium Products: Aluminum Company of America, 1711 Gulf Building, Pittsburgh, Pennsylvania.

MAGNESIUM



PRODUCTS

AMERICAN MAGNESIUM
CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA



It takes coal, water and **CLEAN AIR** to raise your eyebrows

For hosiery as well as bombers' bullet-proof noses, synthetics are made by stringing together molecules taken from common materials. In many of these processes, air is important from start to finish.

Air furnishes much-needed oxygen and nitrogen molecules. Under pressure, it is an integral part of some processes. Final quality of the products often depends on complete air control throughout a plant.

As a result, you'll find intake air filters on engines and compressors, breathers protecting hydraulic machines and motors, air filter panels to clean every foot of air entering a plant.

Air-Maze makes all these types of filters, and engineers new ones when they're needed. Fast-moving industries save time and headaches by getting their air filtration answers all in one place—Air-Maze.

If anyone can fit a filter to your ideas, AIR-MAZE engineers will do it—quicker and better. Your inquiry will get prompt action.

AIR-MAZE CORPORATION • CLEVELAND, OHIO

AIR-MAZE

SPECIALISTS IN AIR FILTRATION

Hunting ideas? Look at typical AIR-MAZE uses!

Crankcases, Presses—breathers to keep lubricants clean.

Engines, Compressors—silencing objectionable intake noise.

Inflammables—safeguarding vents of storage tanks.

Communications—filters to protect radio and telephone equipment.

Aviation—intake air filters and oil breathers engineered to do the job.

After the War—your car, home, plane or industrial machines will be better for an Air-Maze filter.



AIR-MAZE oil-bath engine filter
One of over 3,000 types

suddenly the fish disappeared. The hopeful said the hard winter was to blame, that the fish would return with spring weather.

They didn't, and fishermen now report that dead smelt cover the bottom of Green Bay. Why they don't rise to the surface is another puzzler. Government experts who have examined the dead fish find no signs of disease.

A Flour Shortage

Demand for proteins from cottonseed limits supply to be used as a breadstuff; mills in Texas work overtime.

Lacking meat, U. S. housewives clamor for other foods supplying proteins. The demand puts a heavy strain on mills producing cottonseed flour, rich in the needed element. The problem is aggravated by the 1942 shortage of stock and dairy feed which depleted stocks of cottonseed meal.

• **Texas Looks for Increase**—Meantime, the mills are doing their utmost to stretch available cottonseed flour to make it last until July 1 when the new crop starts to the crushers. This year's output in Texas should double last year's.

The Nutty Brown Mills, Houston, and Traders Cotton Oil Mill, Fort Worth, are the two Texas plants producing cottonseed flour in quantity. The respective brands are Nutty Brown and Proflo. They entered a field pioneered by the Schulenburg Cotton Oil Mill at Schulenburg, Tex. Its Allison's Flour sold 40 years ago in the limited health food market, mainly to diabetics.

• **An Idea Comes Through**—Back in 1928, C. A. Sears left a traveling job to apply an idea that had been pestering him a long time. He wanted to produce bread low in fattening starches and high in energizing proteins. Cottonseed flour was the result, and soon his Nutty Brown Mills had customers among commercial bakers in every state of the union.

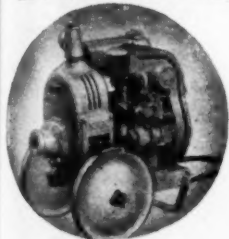
Traders Cotton Oil Mill also entered the field with a flour for the baking trade and a cottonseed filler for meat processors. Sausage makers and other packers, even in peacetime, demand a low-cost meat extender with high protein values.

• **Argument Over Merits**—If they weren't snowed under with orders, the Texas cottonseed flour people might resent the fact that the Dept. of Agriculture rates the flour lower than those made from soybeans or peanuts (BW—Oct. 24 '42, p. 43). They point out that the American Medical Assn.'s council on foods has long indorsed cottonseed

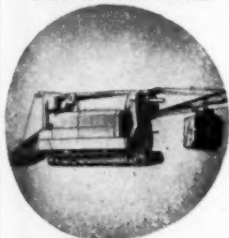
Manufacturing is only PART of his business



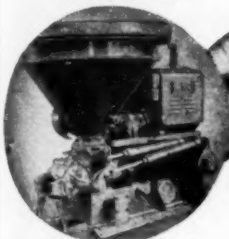
REX CONCRETE MIXER



REX WATER PUMP



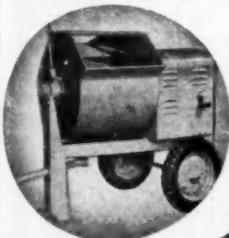
REX PAVER



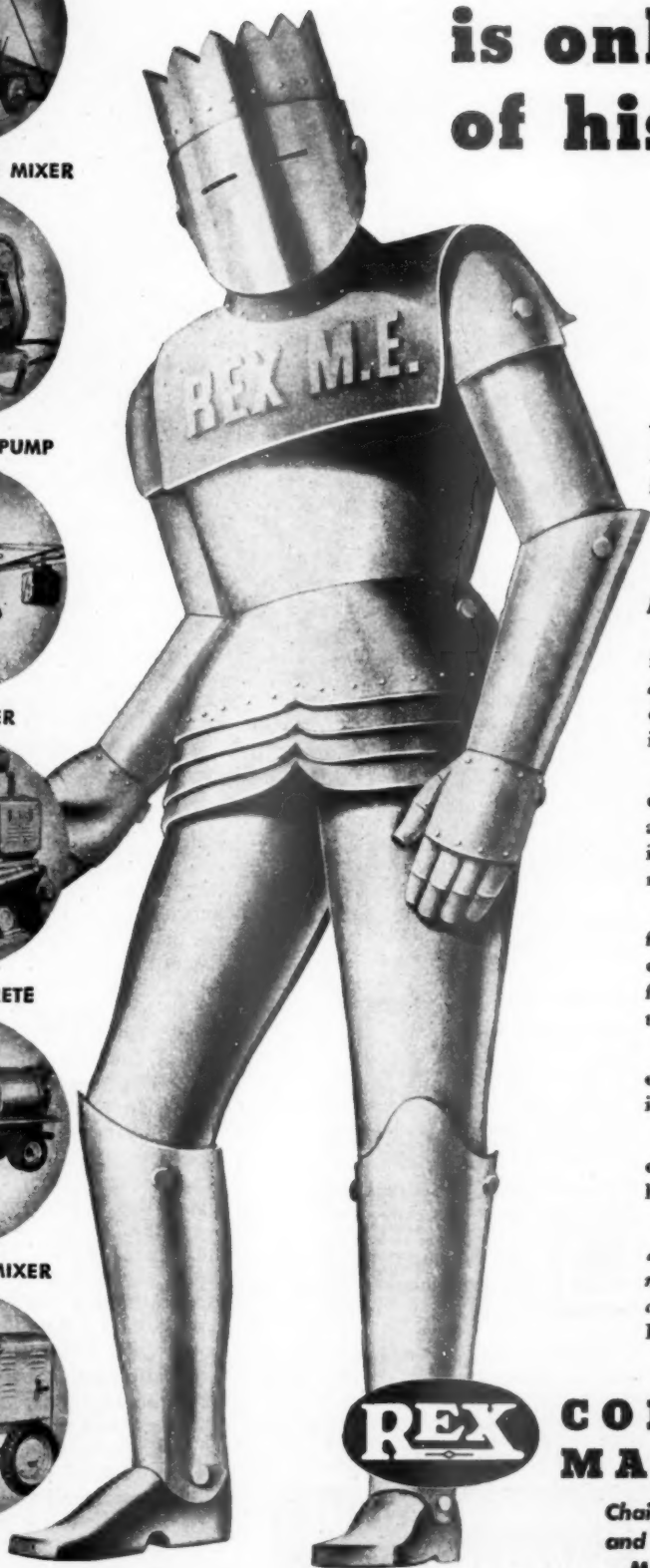
REX PUMPCRETE



REX MOTO-MIXER



REX PLASTER
MIXER



REX Mechanical Engineering—Rex M. E.—serves Civil Engineering and its contracting organizations.

His business is the design, manufacture, application, selling and maintenance of machinery for mixing and placing concrete and for removing water.

In this country and in many others, he is well known as a manufacturer. He does manufacture construction machinery and is proud of it, but manufacturing is only a part of his business.

In addition, he performs the functions of application and selling which are just as much duties of Mechanical Engineering as are design, manufacture, and maintenance.

Application and selling are the informational and technical services required by the engineers and contractors for solving problems of capacity, adaptation, application and selection.

For this service he has enlisted a veteran field organization of 73 distributors in the important cities of the country.

When they require the engineering aid of specialized engineers, they call on the home office of Rex M. E. in Milwaukee.

Through them all, Rex M. E. is learning and applying much that is helpful now and may be still more helpful after V-Day comes. Chain Belt Company, 1726 W. Bruce St., Milwaukee, Wis.



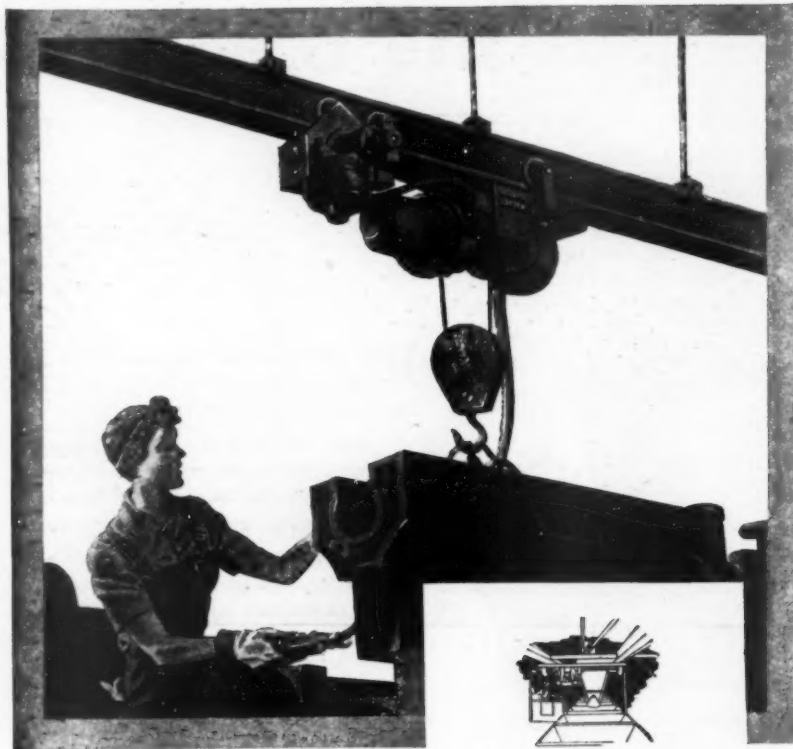
CONSTRUCTION MACHINERY

Chain Belts in More than 2000 Sizes
and Types • Sanitation Equipment
Materials Handling Equipment

CHAIN BELT COMPANY OF MILWAUKEE

Business Week • May 15, 1943

HOW TO USE WOMEN TO *Solve the Manpower Problem*



WOMEN are anxious to help win this war in America's factories. But they can't be expected to do the physical labor of men. Hence the solution of many production problems today is a Louden handling system. A woman, a Louden system and a simple control can lift, turn, spot, lower or carry any load from 10 pounds to 10 tons anywhere in your plant. This combination can do many jobs more swiftly and efficiently than any crew of men you could muster. They can handle stores, receiving, unloading, loading, distributing, processing, assembling and shipping. In turning the "bull" labor over to Louden you release people from mere handling to vital productive activities. You speed the flow of materials and step up your rate of production. You go far toward removing the cause of the long-hours production slump. You get materials handling up off the floor and onto the ceiling, making room for as much as 20% more production facilities. And when the war is over, your soundly integrated and highly efficient plant will be ready for competitive production.

With a Louden cab-operated crane hoist, women can handle any load up to 10 tons throughout an entire plant.

Women can handle materials easily into, through and out of ovens, spray booths and other processes.

Answers to Four Questions That May Bother You

1. Louden is a complete handling equipment line . . . tailored to your needs.
2. Made for single departments, small plants or huge factories.
3. Louden can be installed while work goes on.
4. Standardized construction offers reasonable delivery.

Materials Handling Manual FREE



64 pages of facts and photographs, scores of installations. How to handle all kinds of materials, in all kinds of plants. A wealth of man-saving, time-saving, space-saving ideas and methods. Write for free copy today.

Investigate Louden and see how it can help in tapping the relatively untouched reservoir of women power. Write or wire today. The Louden Machinery Company, 5220 E. Superior Avenue, Fairfield, Iowa.

LOUDEN OVERHEAD MATERIAL HANDLING SYSTEMS

Untangle Men, Machines, Manufacturing and Material Handling



NEW LIAISON MAN

Creation last week of a scientific relations department by General Foods, headed by Lewis W. Waters, reflects the accent on nutrition. In his new post of coordinating scientific developments and company research, Waters retains the title of vice-president which he held as director of research.

flour as a wholesome human food, and they quote food experts as declaring that, of the high protein flours, the cottonseed product is first.

This flour, made from the versatile cottonseed after it has given up its oil, is 52% protein and is used as a blend with the more starchy wheat flours. The baked loaf is roughly 19% protein and 6% starch.

• **Tried by the Army**—Research by the U. S. Quartermaster Corps has developed rations wherein meat is extended as much as 15% by additions of cottonseed, peanut, and soy flour. There was a similar situation in the last war when the government bought great quantities of cottonseed meal and ground it into flour for our fighting men in France. Then, however, the problem was a shortage of wheat flour, not a crisis in meats.

Nutritionists have consistently asserted that proteins are plentiful and that the trouble is inducing the American palate to reconcile itself to substitutes. Now millers know how to produce protein flours with acceptable tastes—and here is a product to watch after the war. Neither the government nor the trade is boosting these mixtures for home use since their behavior in the oven demands the knowledge of professional bakers.



This parachute flare is same type Army Air Forces used in Battle of Bismarck Sea to help sink 22 Jap war and merchant ships

Parachute flares carry their own eye shades . . .

THESE ARMY ENGINEERS are looking at no ordinary parachute.

This parachute will carry a magnesium light of high candle power . . . to light up targets for night bombing.

But without an eye shade between the light and the parachute canopy, its brilliant glare would interfere with the bombardier's aim and silhouette the plane against the sky.

Since these parachutes are carried folded up in a compact package, the flare shades must fold up into a small space, too.

The shades must also be highly resistant to heat—the

magnesium light burns at more than 1000° F.—they must weigh very little and be exceedingly strong.

To solve this problem called for practical knowledge of the newest materials and methods and decisiveness in using them.

The Army acted quickly. They specified that the flare shades were to be made of a new, all-glass material—a material made of woven glass fibers, called Fiberglas.* Fiberglas had been developed only a few years before the present war began.

It had never been tried for anything like this new war use before!

What the Army knew

But the Army knew that Fiberglas was extremely light in weight and that it wouldn't burn. It gave the Army an ideal solution to the flare shade problem. The Army's judgment was rewarded.

Frankly, we're mighty proud to have had a share in

this job. But we think there's more to it than that.

For we're continually seeing cases like this where determined service men, in grim and deadly earnest, are making use of the newest methods and most advanced materials, like Fiberglas, to build better equipment for war.

Our part . . .

The workers in our plants and laboratories are determined to do everything possible to supply the Army and the other armed forces with increasing quantities of Fiberglas. Owens-Corning Fiberglas Corporation, Toledo, Ohio. In Canada, Fiberglas Canada, Ltd., Oshawa, Ontario.



OWENS-CORNING

FIBERGLAS

U. S. Reg. U. S. Pat. Off.

PRODUCTION

Rubber Uses Soap

And competition between the buna program and ordinary cleanliness is causing scramble for fancy grade of tallow.

Soap is used for more than just face washing. Industrial applications of soap commonly classed as nondetergent, including metal-drawing and textile scouring, require tremendous tonnages—and these requirements keep rising along with war production.

• **Problem of Materials**—Current headache of industrial soap supply is the synthetic rubber program. This is expected to require 50,000,000 lb. of the finest quality white soap chips in 1943 and 100,000,000 lb. in 1944. Actually, no shortage is implicit, but the problem is one of getting sufficient quantities diverted from nonwar uses of the same raw materials.

The entire process of making synthetic rubber is based upon emulsifying in a soap-and-water solution two relatively oily materials, butadiene and styrene. The emulsion produces an even dispersion of particles, and the two materials are then polymerized by the use of suitable catalysts. The latex is removed from the aqueous solution by adding salts and acid; the soap is not reclaimed.

• **Alternative Doesn't Help**—Some synthetic rubber plants substitute fatty acids for soap, but this in no wise affects the basic problem of supply, since the same tallow is the critical raw material for either emulsifying agent.

Total consumption of soap for synthetic rubber even in 1944 should be less than 5% of the soap industry's annual output, which exceeds 3,000,000,000 lb. But you can't use just any old soap for synthetic rubber. Functionally, soap is here a chemical ingredient in a chemical process, subject to specifications as rigid as those for any other reagent. The soap must be just right to produce the best grade of buna rubber.

• **Only Best Will Do**—Soap for synthetic rubber making is made to specifications calling for fancy tallow that is hard at room temperature and very light in color. Next best grade of tallow that is just a little yellowish won't do. This unavoidable fussiness is the focus of the present difficulties. Fancy tallow comes from inedible beef fats. Largest producer is the rendering industry, with the meat packers running second.

Nobody knows exactly how much fancy tallow is produced annually in the U. S., but frechand guesses, based on

known capacities of large producers, indicate that the output is several times the tonnage scheduled for use in synthetic rubber. But, large as it is, this entire output of good grade tallow is smaller than production of medium and lower-grade tallows.

• **Pride in Color**—With makers of white toilet and floating bath soaps ballyhooing their wares' whiteness, competition has been brisk for good grade tallow, holding it at the ceiling price line above other grades. As long as competitors can get full supplies of good tallow, no big fellow craves giving up any of his. After all, retail soap for household consumption made them what they are today.

• **Loss of Byproducts**—Black-market slaughtering draws a big share of the blame. Fat from farm-killed and alley-killed beef does not find its way unfailingly to the soap kettles. Packers assert that loss of byproducts may prove even more serious to the war effort than diversion of the meat itself.

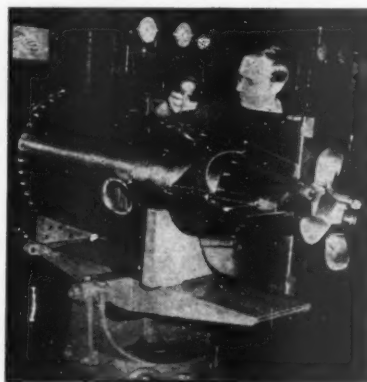
Control of tallow has in recent weeks shifted from WPB to the Food Distri-

bution Administration. General expectation of the industry is that, before the pinch becomes really tight, FDA will slap an allocation or priority control on top grades of tallow, thus automatically assuring supplies for synthetic rubber.

• **Competitive Factor**—Such a program would leave a substantial tonnage of good tallow for making household soaps. Actually, if a soap maker should change his specifications on white branded soap to use the next lower grade of tallow, the retail consumer could hardly notice the slight loss of whiteness. But competitors' technicians would catch it and spread the tidings.

Under FDA's most recent order, soap production is divided into two classes for quota purposes. Soap for most industrial, nondetergent, military, and lend-lease uses is exempt from all production limitations. Nonexempt soaps, coinciding roughly with household types, may be produced up to 84% of 1940-41 average. The exempt groups were calculated to constitute enough to bring total 1943 use of soap tallow to 100% of 1940-41. The base years were boom years, hence soapmakers are not squawking. Best guess is that there will be enough soap of one kind or another to keep the nation's ears clean as long as current quotas prevail.

"Tin Fish" by American Can



This month Amertorp, American Can's torpedo-building subsidiary, is turning out tin fish at "six times the rate which Navy contract requirements set for June." Two plants are devoted to the 3,000-lb., 20-ft. leviathans for surface craft and airplanes; a third manufactures precision gyroscopes which steer them on their lethal way.

Each torpedo consists of four sections: (1) the "warhead" filled with hundreds of pounds of explosives; (2) the compressed-air chamber; (3) the storage for fuel, water, and lubricating oil; (4) the "cast end" (above) housing the steam turbine, boiler, burners, gyroscope, and depth con-

trol, and mounting the propellers and rudders. Unlike the tin fish of the World War, which was powered by compressed air, the current model runs by steam.

Primary reasons for Canco's selection by the Navy to build "more torpedoes than any other manufacturer in the United States" were its facilities for the production of special machinery. One example of its craftsmanship is a special lathe with eight cutting tools (below) for turning second sections at hitherto unattainable speeds.



Score One for Synergism

Avconit . . . a new knitting finish for rayon . . . makes possible for the first time, full-fashioned rayon hose. Developed synergistically by the American Viscose Corporation and Atlas Powder Company.



The Next Step Beyond Cooperation—SYNERGISM!

Cooperation paves the way for synergistic thinking—when minds, cooperating to get better results, “click” from the impact of idea meeting idea and evolve a result that is greater than the sum total of the ideas expressed. Synergism is the spark plug of industrial progress.

INDUSTRIAL synergism stimulates the working of minds to hatch the ideas that give birth to better methods, more effective processes, finer products. It can happen anywhere—at a desk, a machine or in the field—to any men whose minds work together. It is not new in human relations. But only recently has industry recognized that synergism is worth aggressive cultivation in relations between buyer and seller.

You will find synergism growing in every field of endeavor. It has helped mightily in war production. Here at Atlas we have discovered that practicing synergism speeds accomplishment and solves problems with results far greater than anticipated.

In our spheres of chemical production, synergistic thinking is yielding handsome results in new processes and materials. Synergistic thinking with our customers has brought about some remarkable accomplishments—big and little—that will be mirrored tomorrow in better peacetime products.

Perhaps you have a problem within our scope that synergistic thinking will convert into post-war opportunity. We would like to talk it over with you.

Avconit—Reg. U. S. Pat. Off.



ATLAS

POWDER COMPANY
WILMINGTON, DELAWARE
Offices in Principal Cities

**Industrial Explosives • Industrial Finishes • Coated Fabrics • Acids
Activated Carbons • Industrial Chemicals • Ordnance Material**

Copyright 1943, Atlas Powder Company

Wide Rims Gain

Results of tests by truck fleets indicate 20% to 50% cut in tire wear; drive for wider use brightens postwar prospects.

Use of wide base rims on automobiles (BW—Oct. 17 '42, p64) is enlarging—and its postwar potentialities grow apace. The National Wheel and Rim Assn. is distributing 100,000 truck rim gages throughout the country to OPA tire inspectors, seeking to intensify interest in rim size selection, through which notable rubber savings for truck and passenger car operators are said to be possible.

• **Saving in Rubber**—The wide rim idea has had a difficult path leading up to its present 100% backing by tire and wheel makers. Now, however, all interests concerned agree that installation of wide

base rims will contribute notably to rubber conservation. Tire companies are stressing the idea in promotional literature going to their dealers.

Wide base rims are exactly what their name signifies. Standard rim width for a small vehicle, for example, is 5 in.; the wide base rim for such models measures 6 in. The wider tire base affords fuller road contact for the tread, it is claimed, relieving flex strain on sidewalls by straightening them and putting air volume within the tire to maximum use by increasing air space directly under the tire's load center.

• **Table of Rim Sizes**—The rim gage being distributed makes it possible to measure rim width by checking the height of the side flange. Along with the gage goes a table showing the minimum rim size necessary to accommodate the tire mounted, together with the recommended wide-base rim.

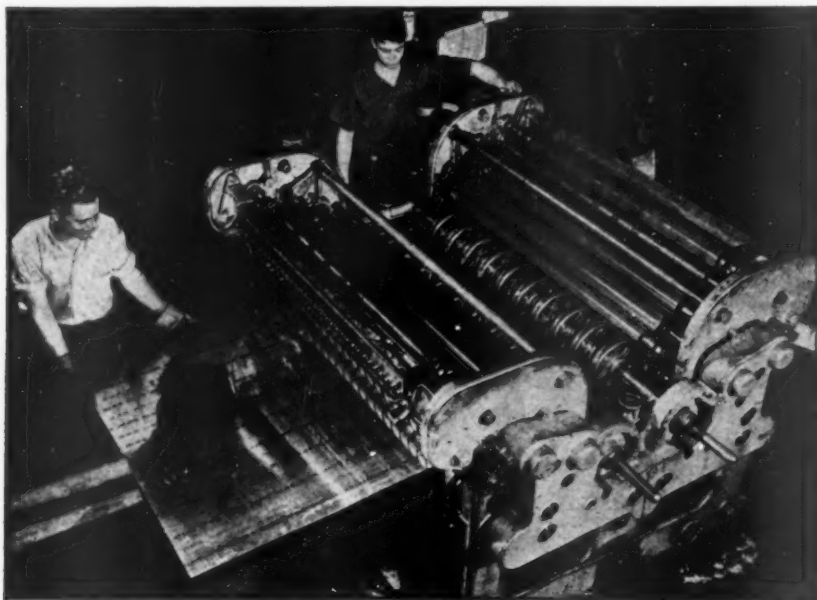
Association members explain that many operators are driving standard rims with oversize tires. Such a situation

comes about like this: An operator purchases a truck or a fleet, then finds load requirements call for heavier tires. He changes to larger sizes but does not change the rims, thereby increasing stress placed upon the tires. The association recommends changing to rims one step wider than those usually specified.

• **Many Trucks Re-equipped**—As a result of unified industry backing, wide rim use had its greatest acceptance in 1942. Estimates are that somewhere around 100,000 trucks were switched over. Through the rest of the year, the industry will concentrate on the truck field in its change-over crusade, letting the bigger passenger car market slide until the war's end.

Switching to wider rims on trucks requires comparatively little metal. As the biggest trucks are converted, the old rims can be used on smaller trucks.

• **Some Case Histories**—Truck fleet operators are the best market. To interest them, the association can furnish case studies of fleets. A Buffalo transportation concern reported 20% to 25% better mileage on wide-base rims. A Los Angeles freight handling line stated that change-over to wide rims resulted in increasing tire mileage 25% to 50% while cutting tire maintenance costs in half. These are typical examples in the files of the association.



New Tool Grinder

Device designed to handle tungsten carbide, and possibly high-speed steel as well, now ready for production.

A new means of tool grinding, applicable now to tungsten carbide and perhaps adaptable later to high-speed steel as well, was announced this week end by Carboloy Co., Inc. The company developed the principle cooperatively with the Edison General Electric Co., Chicago.

• **Constant Pressure**—One secret of the process lies in the fact that the grinding wheel not only rotates, but also oscillates through its horizontal plane. A second is that the tool being ground is held against this wheel under constant and controlled pressure and at a fixed angle.

Technical experts, who previewed the process earlier this month in Detroit, saw the top face of a tool whose tungsten tip measured $\frac{3}{4}$ in. by $1\frac{1}{4}$ in. ground to smooth finish in approximately 15 seconds. To achieve that same finish by hand might have required 5 to 10 minutes of a craftsman's time.

• **Time Predetermined**—This was accomplished in a paired cycle setup in which the only duty of the operator was to insert and remove tools from a pair

SPEEDY ALUMINUM PRINTER

A special printing press achieves new speed records in putting complete identifying information—alloy, temper, gage—on prime aluminum alloy sheets produced by Reynolds Metals Co. Built to order by Schmutz Mfg. Co. of Louisville, Ky., the machine uses rubber type to print any two of seven colors and white at a crack. Each color indicates a particular alloy. Block letters designate a heat-treated sheet; italics, an annealed sheet; numerals, the gage. Special inks that dry rapidly prevent offsetting when sheets are stacked, are not affected by heat, paint,

oil, or the passing of time, and permanently insure that the sheets can be identified years later by scraping off any surface coating and reading the symbols. Since the sheets are printed in lines only $2\frac{1}{2}$ in. apart, all parts made from them, as well as scrap, can be instantly spotted. Thus scrap can be sorted, segregated, and returned to the mill for reprocessing with optimum ease and speed. The press will now be used exclusively for the identification of metal going into aircraft production, but both the manufacturer and the owner believe that it has postwar applications that will offer advantages in a variety of other fields.



Requiring neither skill nor experience to operate, a new machine simplifies and speeds the exacting job of grinding carbide tungsten tools. Automatic devices set proper angles, tool pressure on the grinder, and the timing.

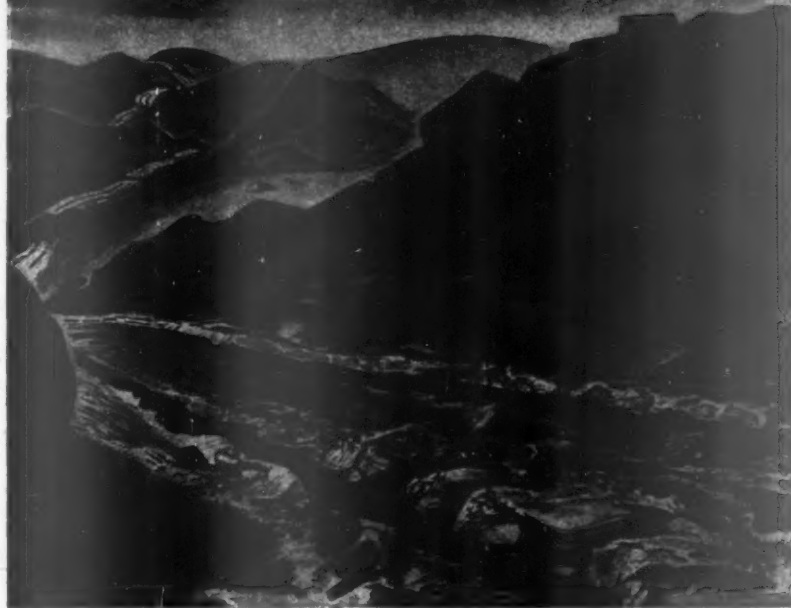
of holders which alternately elbowed onto the spinning wheel. When an arm bent down to the wheel, it remained there at pneumatically fixed pressure for a fixed time.

This is seen as removing the problem of grinding tungsten carbide tools, an obstacle to their wider use. The use of the automatic grinding setup makes the job routine even for an inexperienced girl. It makes possible, too, the use of diamond-impregnated wheels. These have always been recognized as the best means of grinding carbide, but cost was high, and even slightly unskilled use made wearout quick. The precision of the automatic method lends maximum life to such wheels, justifying the cost. • **Expensive Equipment**—Carboloy and Edison General Electric are not yet settled on plans for manufacture of these automatic grinders. One thing seems sure: The device, considerably more expensive than orthodox grinding setups, will be practical primarily for larger shops whose tool grinding is a big item. But a wait is in prospect—until plans for production of the new grinder are completed.

NO MOVING SHUTDOWN

Removal of a plant without going out of production is the task now being undertaken by the Southern Products & Silica Co. One of its two tumbling mills will be moved from Lilesville, N. C., to Columbus, Tex., while the other remains in operation; once the Texas plant is running, the North Carolina mill will follow. Object of the move is to relocate close to an adequate supply of flint rock which the company processes and supplies to the paint, ceramic, and other industries.

A hard-long-road...



... a road of bitter fighting and heavy casualties, and disappointments — stretches ahead of America. It is the road of hardest realism. We must stay on that road — for it is the only road to Victory.

A little good news here and there does not erase the cold fact that we are fighting what is still the most powerful military machine in the world. A more powerful machine is still in the making here in America.

We have made a start, but today, as never before, there is a vital need for harder work by more civilians on the home front.

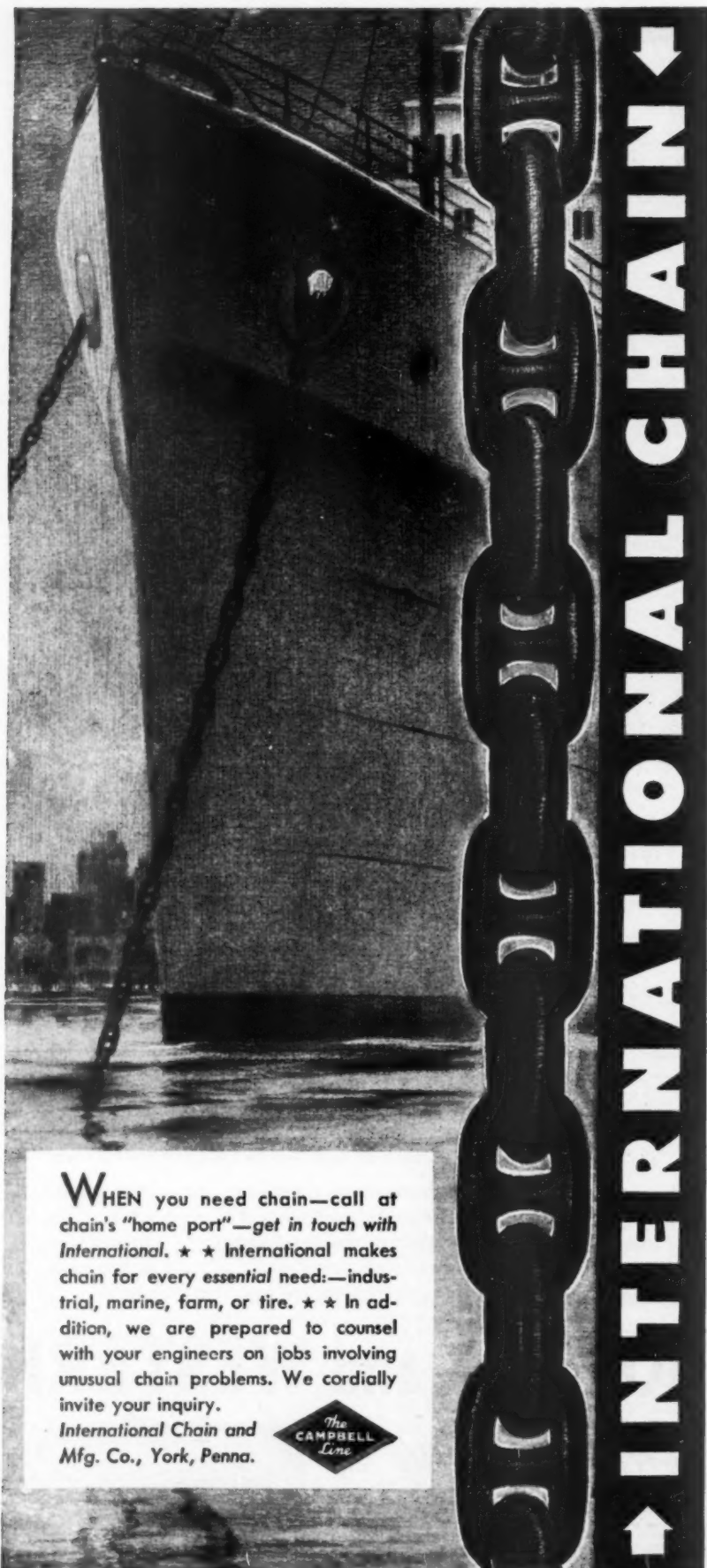
We can be thankful for our great American industry, our inventive genius, and our railroads, which are producing and moving the machines of war we need to win the war.

On the road of hardest realism we must remember: the development of America and what we have were made possible by the very things we are fighting to preserve — opportunity, individual initiative, and private enterprise. These are our strongest weapons in war and in peace.

NORFOLK and WESTERN Railway

ONE OF AMERICA'S RAILROADS
... ALL UNITED FOR VICTORY






↑ INTERNATIONAL CHAIN ↓

WHEN you need chain—call at chain's "home port"—get in touch with *International*. ★ ★ *International* makes chain for every essential need:—industrial, marine, farm, or tire. ★ ★ In addition, we are prepared to counsel with your engineers on jobs involving unusual chain problems. We cordially invite your inquiry.

International Chain and Mfg. Co., York, Penna.



NEW PRODUCTS

Plastic Armbands

Newest additions of the Hollywood Athletic Co., 211 E. 7th St., Los Angeles, to its line of plastic identification badges, tool checks, etc., are Plastic



Sealed Armbands. They come in a variety of stock designs, sizes, shapes, and colors for quickly identifying key people in war or civilian plants, such as inspectors, expeditors, etc., and are available in special designs with company names or other designations. They are practically soilproof, but since they are also waterproof, they can be easily washed as required.

Totally Inclosed Motors

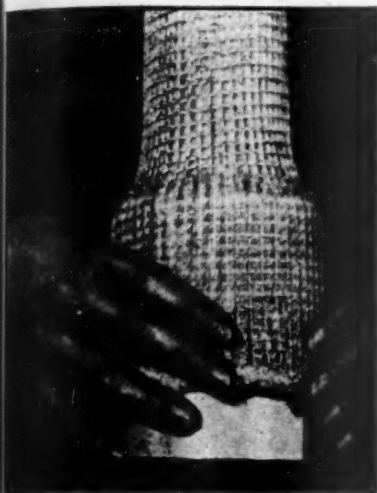
Tri-Clad motors, which General Electric Co., Motor Div., Schenectady, N. Y., has been featuring for their "triple protection" against physical damage, electrical breakdown, and normal operating wear, will now also come in the form of new totally inclosed motors for services where rain, snow, chemicals, abrasives, and excessive dirt are encountered. There will be two types: poly-phase, 60-cycle, induction motors in sizes from $\frac{1}{2}$ hp. at 900 r.p.m. to 2 hp. at 3,600 r.p.m.; single-phase, 60-cycle, capacitor motors in sizes from $\frac{1}{4}$ hp. at 1,200 r.p.m. to 2 hp. at 3,600 r.p.m. Mounting dimensions are the same as those of the standard Tri-Clad open motors of the same ratings.

Protective Boot

Official name of an ingenious, shape-conforming, protective jacket or sleeve for safeguarding fragile or superfinished parts against damage in process or during shipment is the "Metex Protective

Boot" (patent applied for), new product of Metal Textile Corp., Orange, N. J.

It could just as well have been called a protective stocking because it is knitted like one on a circular machine. Unlike a standard stocking it has two layers: a tough outer covering composed of steel wire and cotton yarn; a soft interlining of all-cotton mesh. Since the boot is elastic, it clings to the part it protects yet is probably the quickest



covering to put on or take off devised to date. It is made to order in a wide range of lengths and diameters.

New Products Briefs

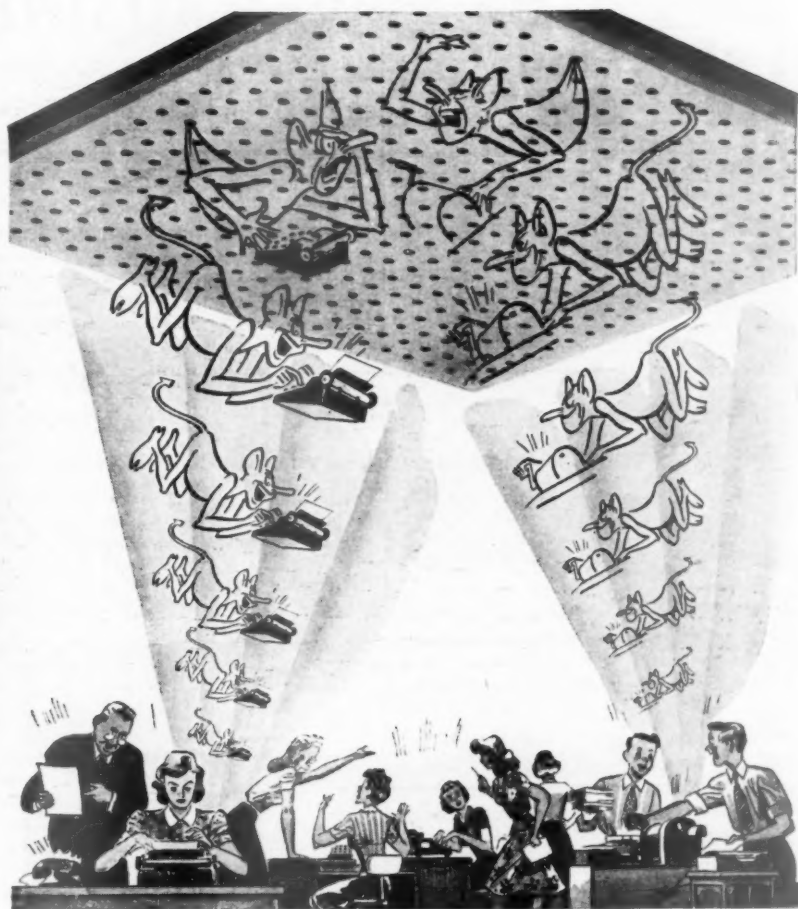
Also reported this week, not only for their interest to certain designated business fields, but also for their possible import in the postwar planning of more or less allied fields and business in general, are the following:

- **Shipbuilding**—Watson-Stillman Co., Roselle, N. J., is in production with its newly improved portable ship frame bender for working or reworking steel plates and other parts on location. An inbuilt, 3-hp. motor powers a hydraulic ram of 18 tons capacity and a working stroke of 10 in.

- **Building**—"Synthetic lumber" in the form of new roof planks, wallboards, exterior boards, and partition panels is being produced out of gypsum rock by National Gypsum Co., Buffalo.

- **Electrical**—The meticulous job of putting uniform bevels on armature slot wedges promises to be considerably expedited by the armature slot wedge beveler, recent development of Youngstown Service Products Co., Inc., 3931 Market St., Youngstown, Ohio. It not only bevels fiber, plastic, or wood pieces, but also saws them to the proper width.

- **Shoes**—"Sylon" soles are new nonrationed products for women's semicausal shoes. A. Sandler Co., 47 W. 34th St., New York, makes them of woven fabric wrapped around felt and treated with six coatings of a wear-resistant plastic.



KILL THE NOISE DEMONS

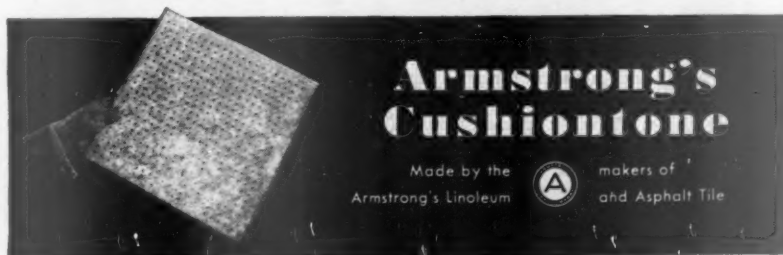
... in a ceiling of Armstrong's Cushiontone

NOISE DEMONS are the world's worst office pests. The best way to keep them from wrecking concentration, wasting time, and lowering efficiency of your employees is to trap them in a ceiling of Armstrong's Cushiontone.

Not even repainting will affect the permanent, high efficiency of this noise-quieting material. 484 deep holes in each 12" x 12" unit absorb up to 75% of the sound that strikes its surface.

Armstrong's Cushiontone is factory-finished—ready to be installed with little or no interruption to office routine. Maintenance is easy. And Cushiontone's ivory-colored surface reflects light unusually well . . . improves general illumination.

ILLUSTRATED BOOKLET gives you all the facts about Armstrong's Cushiontone—the ceiling material that pays for itself by increasing office efficiency. Write for your free copy. Armstrong Cork Company, Building Materials Division, 3005 Stevens St., Lancaster, Pa.



**Armstrong's
Cushiontone**

Made by the
Armstrong's Linoleum



makers of
and Asphalt Tile



In a spot like this, there is no substitute for speedy, decisive action. And that's just what vital war plants get when duGas fire-fighting equipment is within easy reach.

● Fire "takes the count" fast when duGas goes into action. Here's why: immediately on hitting fire, duGas dry chemical releases huge volumes of fire-smothering gases that quickly subdue fierce flames.

And no matter how hot or how cold the climate, duGas dry chemical is always ready for instant use. Important, too... duGas is non-toxic, hurts nothing but fire.

Now, of course, all duGas dry chemical fire-fighting equipment is going to Uncle Sam and his war industries. After the Axis is whipped, there will be plenty of duGas fire extinguishing products available to all.

PRIORITY INFORMATION GLADLY FURNISHED



FREE—New chart showing characteristics of all types of approved hand fire extinguishers. Write for copy today.

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ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN

WAR BUSINESS CHECKLIST

A digest of new federal rules and regulations affecting priorities and allocations, price control, and transportation.

Wood Pulp

Producers of wood pulp have been ordered by WPB to set aside 20% of monthly production, beginning in June, for possible use in essential war industries. It is expected that most of the pulp thus withheld will be returned to the producer, but recent shortages make it imperative to maintain an assured supply at all times. (Order M-93-a.)

Dairy Products

In order to avoid possible shortages of civilian supplies of butter and cheese during the low production months next winter, the War Food Administration has changed its set-aside orders to provide for meeting the bulk of the government's requirements during the peak production period this summer. (Food Distribution Order 2, butter, and Order 15, cheese, as amended.)

Cotton Yarn

In order to enable the military services to obtain full procurement of fine cotton goods, OPA has increased by approximately 6% ceiling prices which they, or persons acting on their behalf, may pay for combed cotton yarn. No increases will be allowed for sales of yarn for civilian use. (Amendment 10 to Revised Schedule 7.)

Tool Steel Scrap

Tool steel scrap has been removed from the provisions of GMPR and has been placed under specific dollar-and-cents ceilings in order to facilitate recovery of critically needed alloying metals such as cobalt, molybdenum, and tungsten. (Regulation 379.)

Butyl Alcohol

Maximum prices on butyl alcohol produced outside Indiana and Illinois and delivered in eastern territory have been increased from 14¢ a lb. to 16.6¢ until June 30, and to 19¢ after that date. Illinois and Indiana producers, who account for about 55% of total output, are held to the old ceilings. (Amendment 4 to Regulation 37.)

Tank Trucks

Strict regulation of local gasoline delivery by tank trucks has been instituted by the Office of Defense Transportation in order to assure continuance of essential service in the face of the rubber and manpower shortages. Due to rationing uncertainties, fuel oil deliveries are not covered for the present.

In general, deliveries must be at least 60% of the customer's storage capacity, and no delivery may be less than 150 gal. except to farms. A delivery complying with these rules may be accompanied by any quantity of another grade or brand carried in the same truck at the same time. Less

than truckload deliveries must be a part of a full load. (General Order ODT 37.)

Copper Sulphate

Due to a serious shortage of copper sulphate in the West, OPA has provided eastern producers with an alternative method of computing ceilings for shipments to western areas in order to permit them to make such shipments at a profit. (Amendment 1 to Regulation 354.)

Conveyors

Acceptance or delivery of portable conveyors and parts has been limited by WPB to orders bearing ratings of AA-5 or higher. Orders with ratings of A-1-c or higher may be filled if they were placed before May 10. (Order L-287.)

Lumber

Production of lumber from seven major species of western trees has been restricted almost entirely to essential military needs by WPB. The species covered are ponderosa pine, Idaho white pine, lodgepole pine, sugar pine, white fir, Engelmann spruce, and western white spruce. (Order L-290.)

Potatoes

Auction markets for potatoes, rare in the past, have recently increased in importance to such an extent that OPA has set the



- American Brass Co.
Kenosha, Wis.
- Borg-Warner Corp.
(Three plants)
- E. I. du Pont de Nemours & Co., Inc.
Perth Amboy, N. J.
- Merritt, Chapman & Scott Corp.
Escanaba, Mich.
- Minneapolis-Moline Power Implement Co.
- Minneapolis, Minn.
- Nashawena Mills,
New Bedford, Mass.
- D. W. Onan & Sons
(Four plants)
- The United States Rubber Co.
Shelbyville, Tenn.

(Names of winners of the Army-Navy award for excellence in production announced prior to this new list will be found in previous issues of Business Week.)

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uctioneer's maximum markup over cost from country shippers at 7% (Amendment 2, Regulation 271). Auctions now supply many distributors who are too small to buy in large quantities.

The differential on "selected" seed potatoes of 75¢ over table stock has been removed (Amendment 11, Regulation 271). This amendment, which is not expected to increase the cost to consumers, does not apply to "certified" seed.

Burlap

Allocation of burlap imports to bag manufacturers for the manufacture of bags as defined in Order M-221 has been ordered by WPB. Quotas for each manufacturer will be set on the basis of the amount of burlap used in 1939 and 1940. (Order M-47, as amended.)

Small Arms Ammunition

Sale and delivery of small arms ammunition to essential civilian users have been placed under strict control by WPB. Ammunition allotted to civilians by the Army-Navy Munitions Assignment Board will be purchased by Defense Supplies Corp. and distributed on the basis of consumer quotas set up in the order. (Order L-286.)

Eggs

Shell eggs in cold storage required to be set aside for government purchase under Food Distribution Order 40 (BW-Apr. 3 '43, p. 38) have been placed under dollar-and-cents ceilings by OPA. (Amendment 5 to Regulation 333.)

Other Priority Actions

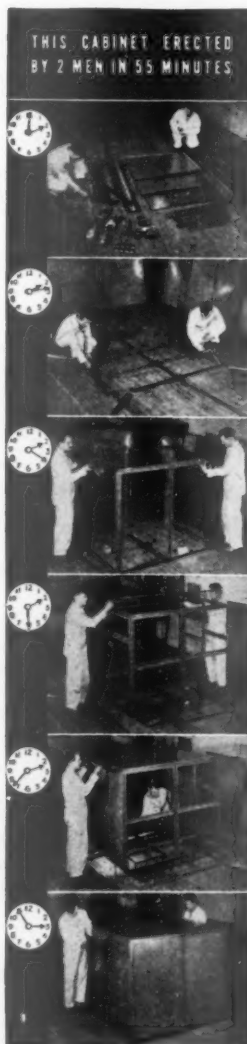
Order M-49, as amended, places all indium supplies under strict allocation control. . . . Order M-18-a-1 permits deliveries of chromium up to 3,000 lb. to a single customer in any one month without specific WPB authorization. . . . Order P-56, as amended, provides a quick method of relief for mines that need repair materials immediately to avert a breakdown. . . . Restrictions on use of ethyl cellulose are tightened by Order M-175, as amended. . . . Restrictions on sale of used industrial sewing machines are relaxed somewhat by Order L-215, as amended. . . . Order M-314 puts thiamin hydrochloride (vitamin B₁) under allocation control. . . . Order M-315 puts nicotinic acid (niacin) under allocation control. . . . Use of template for maintenance and repair of roofing is permitted by Order M-21-c, as amended.

Other Price Actions

Regulation 380 establishes dollar-and-cents ceilings on used metal bedsprings. . . . Dollar-and-cents ceilings on five types of imported carpet wools are set by Amendment 13 to Revised Schedule 58. . . . Industrial naphthas, solvents, mineral oil polymers, and petroleum sulphonates have been transferred from GMPR to Revised Schedule 88 by Amendment 95 to that schedule. . . . Regulation 389 sets dollar-and-cents ceilings on frankfurters, bologna, and fresh and smoked sausage at wholesale; zones used are the same as those in the retail pork regulation.



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Lindsay Structure is the modern method of steel construction widely used in speeding up the production of many types of vital war equipment.

SAVES STEEL by utilizing the great strength in light sheet metal. High strength-weight ratio makes possible steel savings up to 35%.

SAVES TOOLING UP—Lindsay Structure units are completely prefabricated to exact size and shipped knocked down for quick assembly in the plant. No special equipment required.

SAVES SKILLED LABOR—Parts are die formed and die cut to exact dimensions. Assembly is fast—by untrained workmen. No welding, no riveting, no waste.

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This method of construction is used in buildings, combat bodies, refrigerated lift boxes, partitions, housings, and in many other applications.

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For details, see Sweet's Catalog File

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**the very next time
you make a
talk or
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Dip into this new book for 15 minutes or half an hour when preparing your next talk . . . you're bound to come up with half a dozen valuable tips on delivery, and modern stories and quotes to add a lot of life, color, and punch to your talk. From these notes of a capable and long-experienced speaker you can get sensible advice and usable ideas for quick application in the kind of speaking jobs you are interested in. Gives a great collection of quotable material, both serious and humorous, and simple factors of successful speaking, presented in a way that you can follow easily and use with good effect on your audience and in development of your own confidence and satisfaction.

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LABOR

NWLB Speaks Up

In its first report to the Senate, labor board not only reviews its cases but also presents a defense.

When the National War Labor Board made its first report to the Senate this week, it found itself in the best public relations position it has ever enjoyed, thanks to the vilification which it has suffered at the hands of John L. Lewis. • **Citation of Results**—Despite the fact that it was thus assured of a sympathetic response to its maiden statement, NWLB took no chances. It presented its work in the best possible light and maintained that it had "succeeded in so controlling wage and salary increases since September, 1942, that they have not added perceptibly, either directly or indirectly, to the cost-of-living burden of the American people."

NWLB's summary of its wage decisions hereafter will become a monthly report made mandatory by the Byrd resolution which the Senate adopted last month. Under that resolution, the board is obligated to transmit a cumulative accounting on the effect of its pay awards. • **Prior to Hold-the-Line**—Accompanied by a letter from NWLB Chairman Wil-

liam H. Davis to Vice-President Henry A. Wallace, the 21 page report with one appendix and 17 tables is a formidable statistical job. It was prepared by Carroll R. Daugherty, the board's director of wage stabilization, who was formerly chief economist for the Wage and Hour Division. Covering only the period up to Apr. 1, it does not include any analysis of NWLB action under Executive Order 9328. Actions taken under the hold-the-line order will be covered in the next report.

Holding no illusions that the Byrd resolution was intended for any purpose save getting the board to expose itself as a promoter of inflation, Davis, in his letter of transmittal, meets the implied charge head-on. "Wage increases can increase the cost of living in only two ways," wrote Davis. "They can raise costs of production and therefore prices, and they can increase purchasing power." Beginning with this economic axiom, he proceeds to marshal arguments in support of his contention that NWLB decisions have done neither to any perceptible degree.

• **Evidence Itemized**—On the effect on prices of board awards, Davis argued that:

Of the increases approved, 98.6% have resulted from voluntary requests by employers (76%) or by employers and unions acting in agreement (22.6%).

Of the voluntary applications pre-



TEACHERS' TEACHER

Chemical treatment of boiler feed-water to neutralize corrosion and insure peak efficiency requires more than rule of thumb. Aiding the U. S. Maritime Service to train ship crews

in boiler operation, American Colloid Division of E. F. Drew & Co., Inc. conducts classes (above) at Sheepshead Bay, N. Y. The concern donates the equipment and services of technical experts who train crew instructors in special five-week courses.



New Curves for Production Lines

HERE you see what the designer can really do for a production line from the vantage point of his drafting board.

For in these pieces, Mr. Loewy has not stopped designing the maximum comfort and utility obtainable with the fewest lines. The process of simplification continues right through to the assembly line. His furniture would be as easy to build as it is on the eye!

The reason for this lies in the tremendous war-spurred development of plywoods, impregnated with Durez resins. But let Mr. Loewy tell you himself how these "war" plywoods gave him ideas on furniture for the future...

"Today, if you were permitted to get inside some of our war plants, you would see plywood being *molded* into airplane wingtips and fuselages...superstructures for PT boats...whole hulls for pontoon boats. The mere fact that plywood can be *molded* today suggests the future possibility of molding it for furniture. Thus... as you can see from the background of the above rendering... the basic frame could be first cut out in one operation from a single piece of plywood. Then, molded

as desired into the finished design! There, you have a real step forward in furniture production economies."

Here is just one of the future developments awaiting plywood's return from the fighting fronts. Lighter than metal and infinitely stronger than wood at present... these plywoods promise even greater possibilities and improvements as a result of continuous Durez research that seeks ever new and better resins so vital to their manufacture.



RAYMOND LOEWY
Industrial Designer

DUREZ PLASTICS & CHEMICALS, INC.
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DUREZ

PLASTICS THAT FIT THE JOB

How NWLB Has—and Hasn't—Held the Line

Since President's order, board has granted wage boosts in 17 cases, denied them in 8, and withheld decision in 3.

INCREASES GRANTED

Universal Atlas Cement Co., Universal, Pa., and Mine, Mill, and Smelter Workers, C.I.O.* Increase of 2¢ an hour, retroactive to Sept. 21, 1942, was made to 490 employees.

O. L. Anderson Co., Inc., Detroit, and C.I.O.'s United Automobile Workers.* Board granted an increase of 5¢ an hour to 170 employees.

Forty-two New York City trucking companies and Local 202 of the Teamsters Union.* Board approved 7¢ general hourly wage increase for 1,200 employees.

New York Telephone Co. and United Telephone organizations.* Board granted pay raise of \$2 per week to 10,000 employees in downstate or New York area plant department.

Southwestern Bell Telephone Co., St. Louis, and Southwestern Bell Telephone Co. Workers Union. Board granted wage increase of \$2 a week to approximately 5,600 workers in plant department retroactive to Aug. 27, 1942, but denied union requests for elimination of intraplant inequalities and for special treatment for employees in certain towns where cost of living is unusually high.

Bridgeport Brass Co., Bridgeport, Conn., and Mine, Mill, and Smelter Workers Union. Board approved supplementary contract providing time and one-half for sixth day in any work week and double time for work on seventh day, retroactive to Oct. 3, 1942.

Eighteen Paterson (N. J.) trucking companies and A.F.L.'s Teamsters Union.* Board ordered wage increase of 15% (about \$6 a week) for approximately 600 drivers and helpers but denied union demand for additional compensation to bring rates in line with other metropolitan areas.

Fellows Gear Shaper Co., Jones & Lamson Machine Co., Bryant Chucking Grinder Co., all of Springfield, Vt., and Cone Automatic Machine Co., Inc., Windsor, Vt. Board unanimously approved 10% wage adjustments to compensate approximately 7,500 employees of four shops for loss in wages due to abolition of double time for week-end work.

Columbia Broadcasting System, National Broadcasting Co., Blue Network Co., Inc., Don Lee Broadcasting System, WGN Inc., Agricultural Broadcasting System, WOR Program Service, Inc., and A.F.L.'s American Federation of Radio Artists.* Board unanimously approved increases of 4½ to 10% for actors, singers, announcers, and sound effect technicians.

Twenty-eight stove foundries represented by Manufacturers Protective and Development Assn., Kalamazoo, Mich., and A.F.L.'s International Molders and Foundry Workers Union. Board approved agreement for one week's vacation with pay after a year's service for 5,000 workers all over country.

Aluminum Co. of America, Lafayette (Ind.) plant. Board approved incentive wage plan, which company engineers said will result in over-all increases of about 20% for approximately 2,800 of the plant's personnel of 5,000 and will also result in a production increase of about 20%.

Prest-O-Lite Co., Indianapolis, and C.I.O. United Automobile workers.* Board granted general wage increase of 4¢ an hour to approximately 250 production workers.

American Leather Products Co., Indianapolis, and C.I.O. United Automobile Workers.* Board granted wage increases of 2¢ to 5¢ an hour for approximately 65 workers.

Penick & Ford Ltd., Inc., New York.* Board approved company request to increase monthly salaries of approximately 365 nonproduction workers by \$2.50 to \$75 and averaging \$12.

Ames Baldwin Wyoming Co.'s plant, Parkersburg, W. Va., and C.I.O. United Steelworkers.* Board approved 3¢ hourly wage increase for 650 workers but postponed a decision on proposed increase in minimum hiring rate pending clarification of the hold-the-line order.

American Stove Co., Lorain, Ohio, and United Steelworkers.* Board approved agreement for general wage increase of 4¢ an hour, retroactive to Oct. 29, for 300 workers.

Mechanics Universal Joint Division for Borg Warner Corp., Rockford, Ill., and C.I.O. United Automobile Workers.* Board unanimously directed company to grant wage increase of 3¢ an hour to 550 workers.

INCREASES DENIED

William J. Burns Detective Agency.* Board denied wage increase for approximately 225 guards and watchmen at Los Angeles. Company wanted to increase starting rate for employees, making it 58¢ which has been going rate, with automatic increase to 62¢ and 66¢ after 30 and 60 days respectively.

Esmond Mills, Inc., Esmond, R. I., and C.I.O.'s Textile Workers Union.* Board denied general wage increase of 10¢ per hour for 1,400 employees.

Eight Atlantic coast yards of Bethlehem Steel Co. and C.I.O.'s Industrial Union of Marine and Shipbuilding Workers. Although shipbuilding commission of NWLB first voted 4 to 3 that the hold-the-line order did not prohibit wage adjustments asked by C.I.O., the commission later voted 4 to 3 to deny request for reclassification of ten occupations which would have given the workers involved a wage of \$1.20 an hour. Rates now range from \$1.03 to \$1.20 an hour.

Quaker City Foundry, Salem, Ohio, and A.F.L.'s Molders and Foundry Workers.* Board denied joint application for wage increases ranging from 2¢ to 5¢ per hour for company's 80 employees.

Mutual Benefit Life Insurance Co., Newark, N. J. Board denied company request to grant increases ranging from \$10 to \$20 a month to all employees earning less than \$3,000 per year.

Kraeuter & Co., Newark, N. J., and C.I.O.'s United Electrical, Radio, and Machine Workers.* Board rejected wage agreement between company and union which provided for cost-of-living bonus of 1¢ an hour for each full point rise in the cost-of-living index.

Accurate Tool Co., Newark, N. J., and C.I.O.'s United Automobile Workers. Board denied union request for 10% general wage increase "to decrease inequalities." Hold-the-line order was cited as reason.

RCA Manufacturing Co., Harrison, N. J., and RCA Radio-tion Employees' Council.* Board denied joint application of company and union for bonus for employees on stagger-shift operations, contending such a differential would be contrary to wage stabilization policy.

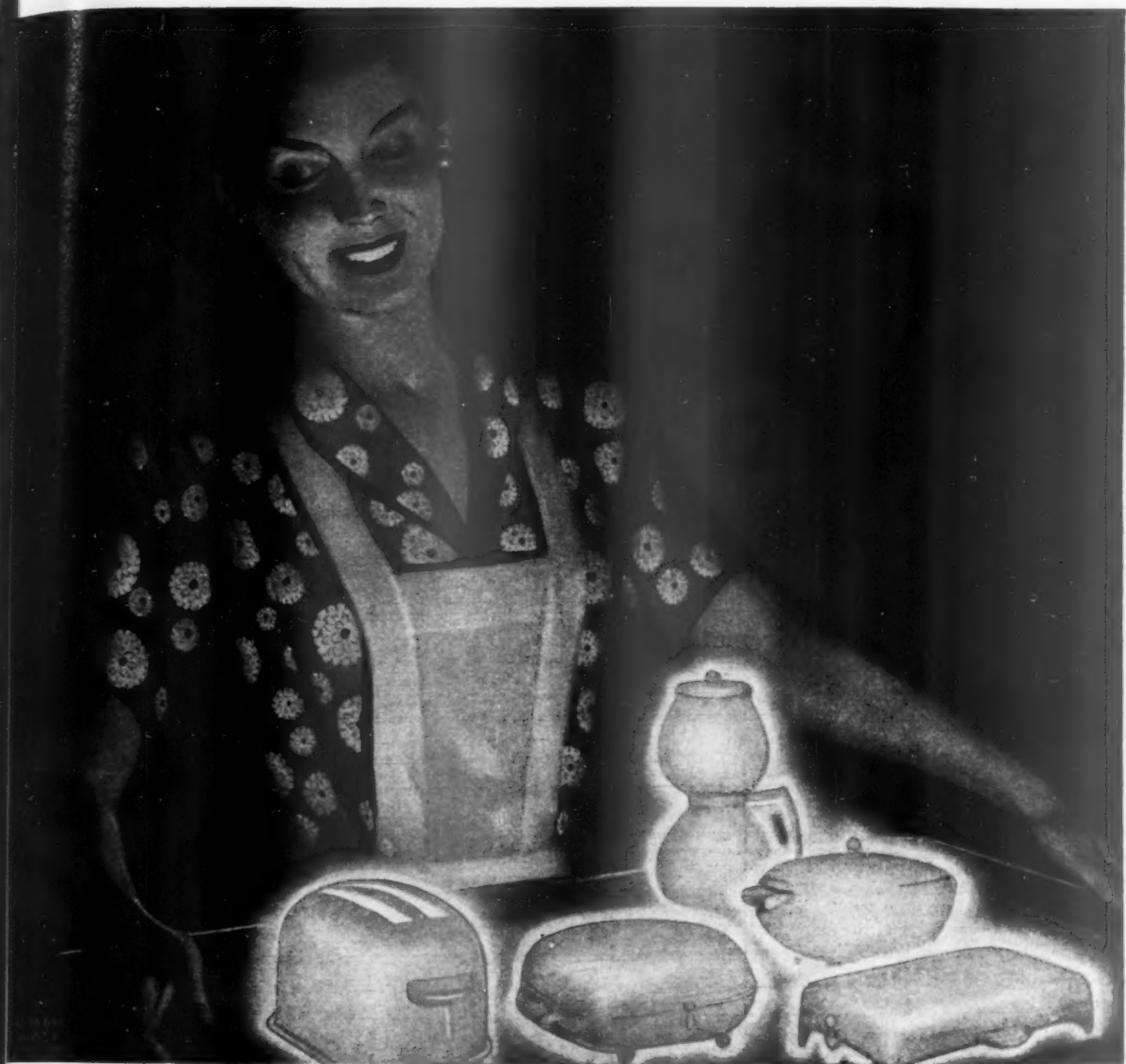
DECISIONS DEFERRED

United States Cold Storage Co., Chicago, and C.I.O.'s Packinghouse Workers Organizing Committee. Pending possible clarification of hold-the-line order, the board deferred decision on wage increases asked by union.

Riverside and Dan River Cotton Mills, Danville, Va., and C.I.O. Textile Workers. Pending possible clarification of hold-the-line order, board deferred action on general wage demands. It, however, ruled that wage adjustments agreed upon by company and union prior to Apr. 8 and which were necessary to effectuate principle of equal pay for equal work by women did not require NWLB approval.

Lamson & Sessions Co., Cleveland, and C.I.O. United Automobile Workers. Pending possible clarification of hold-the-line order, board deferred action on union wage demands.

* Indicates that decision for or against wage increase was based largely on Little Steel formula allowing increase of 15% above level of Jan. 1, 1941.



Every wife is still a bride-to-be

AT the end of the war American wives will want to be brides all over again, start housekeeping afresh, refurnish their homes and refurbish their lives with sparkling new possessions for happy living. Not only new articles to replace the old and worn, but entirely new models that make it more fun to keep house. Automatic kitchen equipment, electrical appliances that make better waffles, coffee, toast . . .

Paradoxically, in an era of plenty, the manufacturer's chief problem may be materials. Not because there will be too few, but because there will be so many!

In addition to all the familiar materials,

there will be a bewildering array of new ones. Metals that once were rare and costly. Entirely new alloys to complement those for which Revere is renowned. Strong, rust-proof, beautiful. But which should be used for what purpose?

For impartial answers to questions about metals, industry can turn to Revere. For just as industry in the future will not be restricted to the traditional materials, neither will Revere. In addition to widening still further the uses for copper and its alloys since the start of the war, Revere has developed facilities for manufacture of the light metals, and is pioneering in

the production of wholly new alloys that can cut manufacturing costs for many industries.

Today the copper industry is producing only for war. No copper is available for anything else. But post-war planners with specific problems in metals are referred directly to the Revere Executive Offices in New York.

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CONSERVATION!



sented, 99.2% have been accompanied by the declaration that no increases in prices would be sought.

Only eight in every thousand of these voluntary applications carried with them a request for price relief.

Two-thirds of these requests for price relief were refused by the Office of Price Administration.

Three thousand voluntary cases are covered during the period reported on, and price increases were granted in only eight.

• **Trend of Wages**—On the effect of board awards on purchasing power, the Davis brief says:

Industrial, transportation, trade, and service payrolls increased \$279,000,000 between September, 1942, and February, 1943—a net gain of 4.9%. Changes in the price of labor (basic wage and salary rates which are NWLB's only economic concern) rose only 1.2%. The remaining 3.7% resulted from expanding employment, increases in hours of work, and shift of labor from low-paid civilian to higher-paid war jobs. NWLB, therefore, has "not added per-

ceptibly, either directly or indirectly, the inflationary gap.

Further, before Oct 3, employers who wished to raise wages did not have to come before the board. Extensive wage increases were made outside the sphere of NWLB's jurisdiction. Davis, therefore, insists that the influence of the board on the total wage structure cannot be measured by reference to general data on average hourly earnings.

• **Breakdown of Cases**—From October, 1942, to April, 1943, NWLB handled 12,146 wage cases. These involved 608,182 workers. In 3,426 cases covering 426,195 employees, no increases were awarded. The rest received an average pay boost of 6¢ an hour which, on board figures, raised the national wage bill \$131,900,000 on a 40-hour week basis or \$171,500,000 on a 46-hour week, including overtime pay.

Sensitive to the charge that the board is pro-labor, Davis reminded the Senate that only 1.4% of every 100 wage adjustment awards were made in disputes where the initiative came from employees.



DONATIONS DEDUCTED

With a drive to end all drives, Lockheed-Vega is putting all its collection campaigns in one basket entitled the "Buck of the Month Club." Flanked by Vega's president, Courtlandt Gross (left standing), and Lockheed's chief, Robert Gross (right), employees sign up for the 25¢ weekly pay deductions that will cover all charitable appeals. Starting with the collection of silk and nylon stockings (below), salvage drives also are being coordinated. The object of this coordination—to save both time and patience.



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WORKING TOGETHER TO SAVE TIME AND CONSERVE MANPOWER

Due to the character of the information contained in this war accounting portfolio, it is not for general distribution. It is available for review, through local Burroughs offices, to industrial and government officials directly concerned with war accounting.

In war industries, camps, depots, bases and government offices, Burroughs systems and installation men have been working with officers and executives responsible for setting up practices that save accounting time and conserve clerical manpower.

Because of their wide experience with industrial accounting and government accounting, Burroughs men know how to correlate both, and how to apply to them the speed and efficiency of figuring and accounting machines.

In the course of this work, detailed information has been compiled—information that describes and illustrates practically every war accounting procedure. It is available for review by responsible officials who need to handle vital accounting with the greatest possible savings in time and manpower.

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The manufacture of aircraft equipment for the Army Air Forces, and the manufacture of Burroughs figuring and accounting equipment for the Army, Navy, U. S. Government and the nation's many war activities, are the vital tasks assigned to Burroughs in the Victory Program.

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A. L. HANSEN MFG CO. CHICAGO, ILL.

Looking Ahead

U. A. W. demands contract embodying a postwar security fund in opening its negotiations with General Motors.

Industry-wide pay stabilization in automotive plants and a "labor postwar security fund" stand out among the objectives of the C.I.O. United Automobile Workers Union in forthcoming negotiations with General Motors Corp. The platform of contract changes was on its way to G.M. this week, following approval of delegates representing 300,000 workers in exactly 100 company plants.

• **As Reuther Sees It**—The postwar security fund is a new wrinkle in union demands, one that labor says is logical, following company announcements of corporate rehabilitation funds. Hard-driving Walter Reuther, head of the U.A.W.-G.M. section, told delegates that if the "rights of coupon-clippers" were to be protected in postwar planning, those of the workers should also be safeguarded.

The conference did not go into detail as to utilization of this fund, but the implications were readily seen. Mainly, any such fund would be used to make employment in the barren job period that might come during reconversion to civilian output. Returning soldiers would be given preferential treatment. Perhaps the fund might finally become a long-term job security program.

• **Subtle Distinctions**—No company reaction was to be had pending receipt of the formal demands, nor was any likely immediately thereafter. But Detroit on-lookers pointed out that aid for unemployed workers posed a problem in definition. General Motors has some 400,000 men and women on payrolls today. At highest peacetime levels, it had only 300,000. How would the company decide which are unemployed workers who will return and which are workers who have to be let go, and, in addition, how to compensate each class?

The industry pay stabilization program is academic so far as the demands on General Motors are concerned, or such is the Detroit belief. G.M. presumably will hardly want to take the lead in consenting to a program of fixed industry standards. Insertion of this demand in the platform probably is just a means of bringing the question to Washington.

• **Guaranteed Weekly Wage?**—For the first time, the union did not bid for more pay a natural outgrowth of wage freezing (although a concurrent resolution assailed the freeze and urged a national policy for war workers of 48 hours' work or 48 hours' pay). Vacation pay demands were set up on the basis of 40



PENNIES FOR THE BOYS

With a 5-gal. water bottle strategically placed, employees of one aircraft factory save to buy smokes for fellow workers in uniform. A penny catcher (above) at the plant's cigarette machine picks up the change that comes in each package. The scheme is a product of the labor-management committee at Brewster's plant, Johnsville, Pa.

hours' pay for workers with no more than six months' seniority next July, 80 hours for those with less than three years' seniority, and 120 hours for those of longer tenure.

The internal U.A.W. division over incentive pay popped up in the delegate meeting. The General Motors section dead set against incentive pay plans and, as a result, went on record in favor of 1943 convention earlier than next October. Asking a July date, the delegate spoke of actions "which are believed to be contrary to the fundamental principles of the U.A.W."

MERCHANDISING JOB

Capitalizing on experience in locating chain drug stores where the shoppers at Thrifty Drug Stores, Los Angeles, went into the downtown shopping and theater section and leased a store for hire purposes only.

At 713 South Hill St., near a corner, the new store, which is attractively fitted up brings the potential job to the shopping woman like merchandise. The women come in, make inquiries, and enough of them have been hired in two weeks since the opening to maintain the company's retail sales force of 3,000.

Middle-aged women have been found very satisfactory, because they want to qualify for a permanent job and stay despite the lure of war employment.

's Thin Ice

There's a nation-wide job freeze, but it has a lot of holes in it. Here's the setup, subject always to quick change.

The one-step-forward, two-steps-back policies of the war agencies handling labor problems have served to confuse employers about what they can and cannot do in hiring, firing, and compensating employees. Vacillations, particularly by the War Manpower Commission and the National War Labor Board, are accountable to the fact that both these agencies operate on the national and regional levels with disparate organizations.

Efforts at Evasion—The Administration, as it did in the hold-the-line executive order, lays down certain rules affecting job transfers and rates of pay, and these rules are widely publicized. Labor representatives on WMC and NWLB find these rules distasteful, however, and exert pressure to have them applied mildly, if at all. The result is that the very agencies charged with responsibility for carrying out the rules search for loopholes.

As a consequence, the employer who scanned the executive order carefully to determine how his operations would be affected, and who reshaped his operations accordingly, is bewildered at finding that the WMC, for example, is climbing down, step by step, from the responsibilities imposed on it.

Stability Lacking—If the employer does get abreast of new regulations on manpower, he has no assurance that still newer ones won't be in force tomorrow. Thus this week any adjustments that he might have made to the Little Steel formula and the President's "hold-the-line" order were thrown into confusion by Byrnes' new interpretation of that order (page 5).

Therefore, any effort to clarify policies even in the most general way—as to what may or may not be done—may be negated by changed policies almost before the advice is given.

Freeze Has Been Thawed—For all practical purposes, the nation is now blanketed by a manpower stabilization program (BW—May 8'43, p14) which thaws the job freeze called for by the President in Executive Order 9328. Under present WMC regulations an employer in an essential industry may hire anybody he can get without regard to changes in wage rates or salary scale if his hiring is in "the interest of the war effort." His right to hire workers employed by another essential industry depends only on getting a certificate of availability.

This certificate may be had either by



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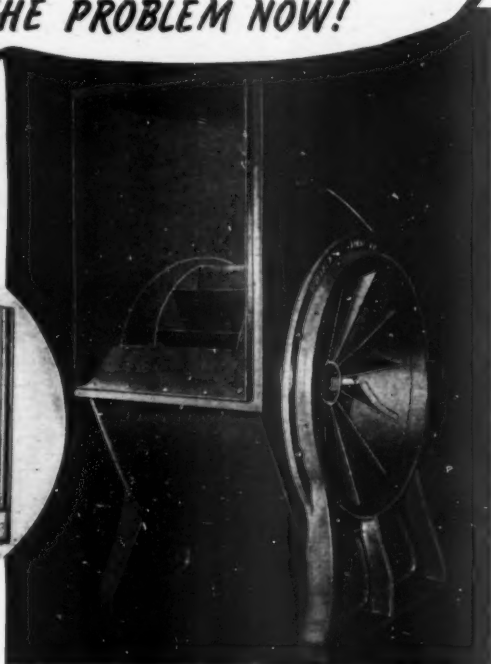
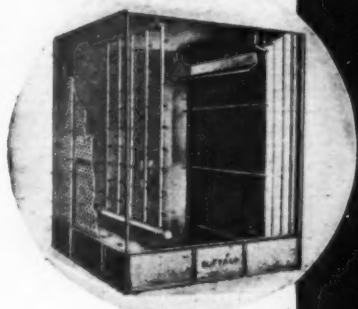


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THE PROBLEM NOW!*



YES, here's a practical way to bring your plant many of the benefits of air conditioning—despite the shortage of complete air conditioning equipment. Buffalo Ventilating Fans, in combination with Buffalo Air Washers, provide clean, dust-free air, properly humidified—the kind of plant atmosphere

that keeps up workers efficiency and morale every season of the year and helps safeguard quality production. Readily installed at low initial cost, Buffalo equipment provides NOW a satisfactory answer to your air conditioning problem. Complete engineering data will be forwarded on request.



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the new employer or by the employee seeking to change jobs. In either case it may be secured from the previous employer or, if he is unwilling to provide one, from the local office of the U. S. Employment Service. To get such a certificate from USES, an employee may claim that he is not being employed at his highest skill, that the lower wage rates on the job he wants to leave are a hardship, that he is not being worked full time, or that he has been laid off.

• **NWLB Has Its Ideas**—But, although WMC sets no limits on wages offered new employees, NWLB says they may not be higher than starting rates traditionally paid by the employer involved or higher than prevailing starting rates for comparable work in the area.

There are no restrictions at all on employers in essential industries hiring workers from nonessential industries or on employers in nonessential industries hiring from other nonessential employers—except in a few areas like Louisville where all hirings must clear through USES (BW—May 1 '43, p94). Standards of essentiality and nonessentiality are set by regional offices of WMC and derive from the industrial classifications promulgated by Manpower Commissioner Paul V. McNutt.

• **WMC Seeks to Clarify**—Questions and answers designed to clarify the new regulations have been prepared by WMC. The most important are:

(Q) Sam Jones is working full time at his highest skill in a war industry in Detroit, earning \$1.25 an hour. He can get a job doing the same thing in another war plant where he will receive \$1.30 an hour. How can he change jobs?

(A) By getting a certificate of availability from his old employer or from USES.

(Q) What kind of information goes in a certificate of availability?

(A) The name of the employee, the social security number if the worker has one, the name and address of the employer issuing the certificate, the date of its issue, and a simple statement that the employee may be hired for work in an essential industry. Any information volunteered beyond this is deemed a violation of the regulation.

(Q) Why is the employer restricted with regard to information which he can put on a statement of availability?

(A) This restriction is to assure that no information prejudicial to the worker will be put on record.

(Q) Al Axelsson is working in a war plant, but a shortage of material has caused him to be laid off for a period of three weeks. Can he take a new job at higher pay?

(A) Yes.

(Q) Martha Martin is working as a typist in an essential industry. She has been taking training after hours and is now ready to run a lathe. There is no such work in the plant in which she is employed. Can she move to another plant where a lathe job is open at higher pay than she now receives?

(A) Yes. If her present employer won't



"TURN IT SLOW... or you'll wreck the place!"

EVEN the greenest new worker knows a valve when he or she sees it—but they have to be told the right way to open and close valves, particularly those that control high pressure or high temperature or both.

Sudden operation may damage the system, even cause explosions—with resultant injuries or even death. But slow operation or the use of by-passes—to check velocity or admit pressure gradually, or warm up the line ahead—is the way to safety and long life of equipment.

Valve instructions and check-ups, based on National Safety Council recommendations, are needed in many plants today to assure valve safety and prevent production breakdowns.

Reading-Pratt & Cady, a division of American Chain & Cable Company, Inc., stands ready to conform with specific suggestions regarding

valve purposes and capacities, and with advice regarding the safety and effectiveness of individual valve installations.

National Safety Council Offers these Suggestions on Valve Safety

1. Install valves which are equal to the job in design, materials, and construction.
2. Operate valves slowly or use by-pass. Valves should be locked if there is any possibility of unauthorized manipulation which would lead to accidents. Be sure to lock valves leading to boilers in which men are at work and valves on lines where repairs are being made. Place warning signs near such valves.
3. Don't remove valve wheels from valves—particularly those at danger points calling for emergency operation.
4. Don't turn a valve stem with a wrench. This may make it impossible to operate the valve either by wrench or wheel.
5. Inspect frequently valves subjected to unusual strain from excessive pressures and temperatures and valves weakened by corrosive gases and liquids.



Managers and foremen are doing their part by telling workers how to operate valves and warning them to "handle with care."

Reading-Pratt & Cady Valves are among the many products we build for industry, transportation and agriculture, essential in peace, vital in war.

The American Chain & Cable Company is happy to cooperate with the National Safety Council in its nation-wide campaign to "Save Manpower for Warpower"—which is now being conducted at the request of President Roosevelt.

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provide her with a certificate of availability she can get one from USES.

(Q) A foreman in a metal plant offered a foreman's job in another plant at higher pay. Can he shift jobs?

(A) When he proves either to his employer or to USES that he can contribute more to the war effort in the new job or that remaining at the lower rate of pay is a hardship, he can get a certificate of availability and change jobs.

(Q) Where can it be determined what employment is included on the essential activities list?

(A) At the nearest USES office.

(Q) What are the penalties for violating these regulations?

(A) Any employer or employee who violates them is subject to a fine up to \$1,000 or a year in jail as provided by the Economic Stabilization Act of October, 1942.

• **Wage-Hour's Part**—The employee who wants to make wage adjustments must, as before, initiate action through the nearest office of the Wage and Hour Division, which still operates as the mouth of the funnel that leads to the National War Labor Board. But wage-hour offices have been sharply circumscribed in acting on these requests. They handle them in three ways:

(1) Requests by employers to make wage adjustments because of incentive pay plans because of merit, or because workers have been upgraded or promoted are held in wage-hour offices. The employer is neither granted nor refused permission to proceed. He is told that "new regulations are expected from Washington which will cover your application." If he wants to gamble that the expected regulations will grant permission for him to grant the adjustments, he may go ahead and make them on his own responsibility. If he chooses to play it safe, he won't change his pay scales.

(2) If the employer asks to make a wage adjustment because his employees have not received increases up to the limits prescribed by the Little Steel formula or because of alleged substandard pay, the wage-hour office will "process" the application. "To process" means to edit the form that the employer has filed, check what is easily verifiable of the statistical data it contains, and forward it to NWLB. An employer may, in the meantime, go in for an interview and get an opinion from wage-hour on whether his case is acceptable. If he is told that his case doesn't look strong, he may proceed at his own risk to make the pay changes he had in mind. If NWLB upholds wage-hour's judgment, he will have to make a retroactive adjustment back to his old scale and he faces the possibility of stiff tax penalties. If wage-hour says his case looks O.K., he can get a letter to that effect and proceed with the adjustments. If NWLB overrules wage-hour, he must shift back to the old scales, but he is immune from penalties and retroactive obligations.

(3) All other requests for wage adjustments are simply forwarded to NWLB by wage-hour offices without processing or interviewing. These make a mounting pile in Regional War Labor Board offices and in Washington and will gather dust until the whole wage adjustment procedure is redrafted.

"Believe it or not . . . I'm waiting for a house to be built!"

ANOTHER NATIONAL GYPSUM AID TO VICTORY



1 No, not quite that speedy! But these new building materials put wings on housing for war workers. Used for sheathing, roof planking, and interior partitions Gold Bond Structural Gypsum Units knock 40% off construction time!



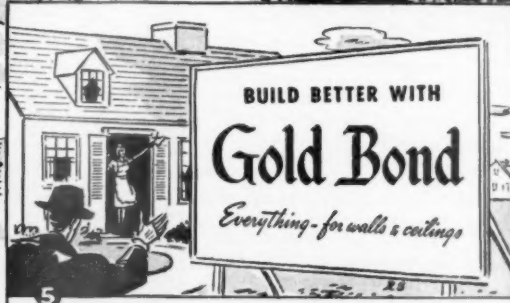
2 Other savings, too! For example, Gold Bond Exterior Board saves up to 90% on lumber for exterior walls. Rock-like panels do two jobs—sheathing and siding, in one operation. A godsend today for speedy construction!



3 These important new National Gypsum developments answer building demands without use of critical material. Available now for new plants and additions, farm buildings, war workers' homes, and all needed building and repair.



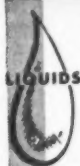
4 Besides speeding wartime building, National's 21 plants turn out huge quantities of war materials including landing mats for portable airfields, insulation to protect food shipments, lime for manufacture of steel and magnesium.



5 If you have a building problem and want a quick, low-cost, permanent answer, investigate these new Gold Bond products. They save time, trouble, money on walls, roofs and interiors. See your Gold Bond Dealer today. National Gypsum Company, Buffalo, N. Y.

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*Synthelene... a new synthetic sealing material which has many characteristics of rubber but which, in addition, resists corrosive gases.

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MARKETING

Radio Chains Lose

FCC rules regulating the dealings of the networks with their affiliated stations upheld by U.S. Supreme Court.

Radio listeners will not notice any particular changes in broadcasting, but those who are in radio now realize that their medium is entering a new phase. This week's Supreme Court decision, which confirms authority of the Federal Communications Commission over some business practices of the chain companies, now removes any doubt that a new day has begun for the commercial program. It is no surprise to the broadcasters, however, since the dawn has been four years long.

• **Prodded into Action**—Back in 1938, under constant prodding from members of Congress over its sins of omission, the FCC ordered an inquiry into chain broadcasting and possible monopoly in that field. After months of hearings running into 9,000 well-filled pages of testimony from the networks and nearly everybody else remotely connected with radio, the commission rested on its oars until—prodded again by Congress—its now famous network regulations (BW-May10'41,p14) were made public. The recommendations were amended in October of that year (BW-Oct.18'41,p38).

What FCC did, in effect, was to find that broadcasting stations, big and

little, were being dominated by National Broadcasting Co. and the Columbia Broadcasting System while the Mutual Broadcasting System, because of its peculiar organization, exercised influence. Examining the affiliation contracts by which independently owned stations tied themselves to the chain, the FCC ruled against provisions "exclusivity."

• **Major Regulations**—Although two of the seven members dissented, the commission voted to prohibit any affiliation contract which (1) prevented a station from broadcasting the program of any other network, (2) prevented a station from broadcasting programs not selected by an affiliated station; (3) prevented affiliation contracts from having terms beyond the life of a radio license which is two years; (4) prevented a station from refusing to clear time already scheduled (on less than 56 days' notice); (5) prevented a station from refusing a network program; (6) would put more than one station in a locality on the same network; and (7) prevented a station from fixing its own rates.

Aimed at NBC operation of both Red and Blue networks, there was prohibition against two networks for any one company. Those things that the FCC held couldn't be done just about put the independent station operator in a position of really deciding what was going to go over his own station from day to day.

• **Chain's Service Cited**—But, in essence, American broadcasting is really chain broadcasting—at least, this form



GLAMOURIZED COTTON

By literally needling eye appeal into cotton, hosiery stylists are aiming at markets that were dominated by silk and nylon before the war. The new

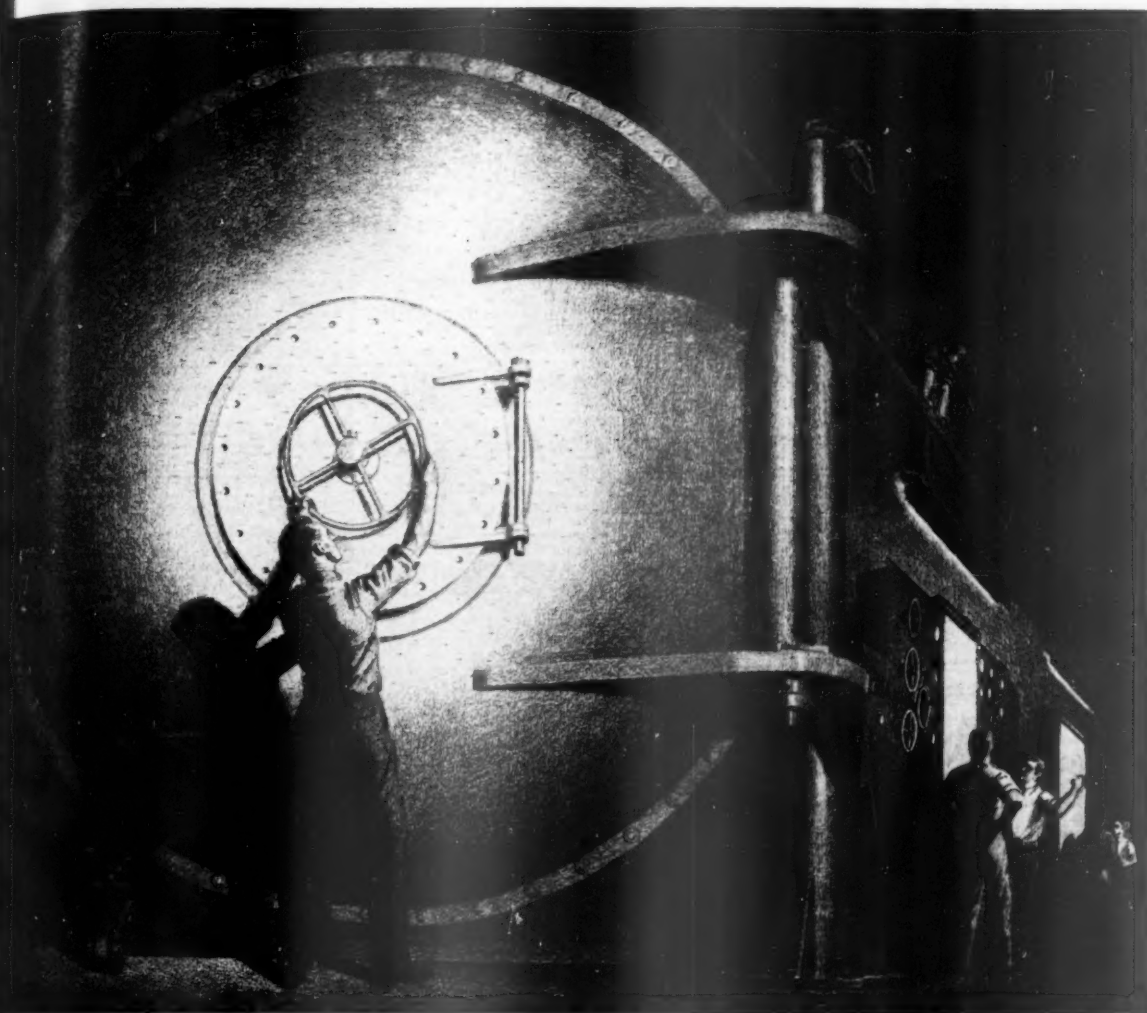


lisle glamour is achieved with solid pastel colors, polka dots on pastel (left), and rosebuds with blue bows on black stockings (right). They sell for \$1.50 a pair at New York's Lord & Taylor department store.

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Sample of the sky over Germany is sealed in this chamber



What is the air like
30,000 feet above
Germany?

How much thinner is
the air we live in at sea level?
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to the safety and comfort of the
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the wartime lessons that we have
learned about air's behavior will be
applied to creating a more enjoyable,
more comfortable and safer way of
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WAR MOVIE

To popularize the steel makers' war role, U. S. Steel is ready to release its newest industrial film. Walter Brennan (right), Academy Award winner, is narrator for the film "To Each Other," previewed last week by stockholders at Hoboken, N. J. The movie is a pictorial resumé of the conversion of old plants to war jobs, construction of new plants such as Geneva (Utah) Works (below), and modern methods of production. It is U. S. Steel's second big movie venture. Five years ago (BW—Apr. 16 '38, p2), the company's "Men Make Steel," a Technicolor production, had its Gotham preview.



is further advanced in this country than in any other—and well does the FCC know this. The commission really regarded its handiwork as a means of advancing network broadcasting because its rules would make chains more flexible since some large cities, having only three stations, could not offer their listeners the best of four national networks.

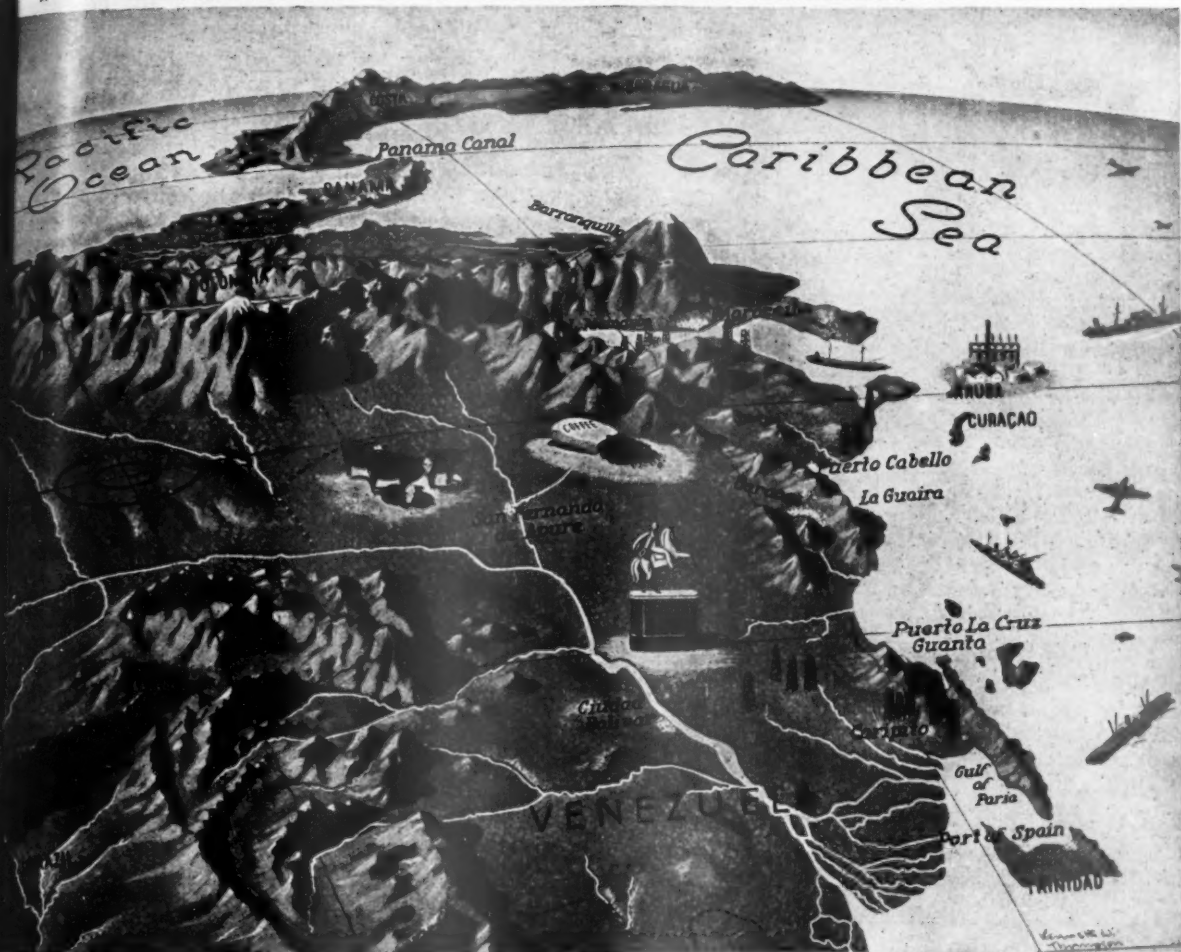
But the network companies of David Sarnoff and William Paley contended that broadcasting by network also means expensive organizations capable of supporting symphony orchestras and overseas news commentators. Therein lay the litigation and the power politics which have stirred broadcasters for more than four years. The Mutual System, however, sided with the commission, going through the courts and resigning in a huff from the National Assn. of Broadcasters as a result of the trade association's anti-FCC stand.

• **Up, Down, and Up Again**—Tests of FCC's legal powers to make such rules

have gone to a three-judge U. S. District Court in the Southern District of New York twice and to the Supreme Court twice. First the District Court ruled it had no jurisdiction; then the high court remanded the case for argument on its merits.

By a 5-to-2 vote, the highest court this week, through Justice Felix Frankfurter, said the commission's action was based on findings supported by evidence and made under authority granted by Congress. "It is not for us to say that the 'public interest' will be furthered or retarded by the chain broadcasting regulations," said the majority. "The responsibility belongs to the Congress for the grant of valid legislative authority, and to the commission for its exercise."

• **Minority's Findings**—Dissenting justices Frank Murphy and Owen J. Roberts held the commission had exceeded its authority and that it is up to Congress to write new legislation. Affiliation contracts have been found



Helping hand . . . from the land of Bolivar

Since 1811, when Venezuela declared its independence, this freedom-loving country has cherished the heritage of its great liberator, Simon Bolivar. No wonder that today, in a world threatened by aggressors, its proud people are spiritually allied with the cause of freedom.

Second only to the United States as a source of all-important petroleum, Venezuela sends a steady stream of tankers across the seas to help meet the demands of the United Nations.

But oil is not all. From its rich mining regions, its luxuriant timberlands, its fertile farms . . . come an abundance of vital wartime products that add immeasurable strength



to the crusade against the Axis.

A salute, then, to Venezuela . . . progressive, cultured, productive . . . a republic glad to extend a helping hand to every nation that fights for world freedom . . . a nation proud of its significant role in the destiny of all the Americas . . . a good neighbor worthy of every American's respect and admiration.

★ ★ ★

Today Alcoa ships are busy around the world working for a United Nations' victory. When this all-important job is done, Alcoa will resume its long-established service to the countries of the Caribbean . . . and Venezuela's bustling ports will once again be among its main points of call.



Alcoa

ALCOA STEAMSHIP COMPANY, INC.
17 BATTERY PLACE, NEW YORK

objectionable. Justice Hugo Black, as usual in radio cases, did not participate, probably because his brother-in-law, Clifford J. Durr, is on the FCC, and Justice Wiley B. Rutledge did not join because the case had been argued before he was sworn into office.

The network companies saw the handwriting on the wall a long time ago and began to make adjustments in conformity with the FCC's rules. Trade papers commented on these actions and their apparent motives as Columbia made noticeable changes in discounts for use of its whole network, while NBC, in addition, severed the Blue Network and let parent RCA organize it as a separate corporation which may be sold some day when the right price and the right buyer come along.

• **Fear for Customers**—Recently some mutterings of network bigwigs have shown fear that some of the biggest and best customer soap companies were going to mushroom with their own networks to operate during the hours of their own "across the board" kitchen heart-throb dramas. Such an event would take the starch out of daytime network operations and severely cut chain revenues, might even thrust the public service obligation back on the slender resources of the individual stations.

The spotlight will be upon the behavior of advertising agencies to discover whether impromptu networks will be organized. A comforting thought to networks is that the FCC still will

license individual stations and will review the public service record for each renewal.

• **Antitrust Action Pending**—What adds to NBC and CBS glumness is that they are not out of the woods yet because the antitrust action instituted by Thurman Arnold in December, 1941, is set for trial in Chicago Sept. 13. It makes issue of the very same network practices that FCC found obnoxious, but the Dept. of Justice cure, in the eyes of many radio men, is even more drastic than that administered by FCC. Moreover, there is the painful thought that there might not have been any conflict with Justice had the whole row with the FCC been averted.

Grade A Gain

Despite increased strength, canners who use U.S. standards on labels are staying out of grading fight—for a reason.

Notably absent from one of the hottest of the recent controversies in schismatic Washington—the prolonged fight over compulsory grade labeling—is the group that has by all odds the greatest practical knowledge of the question.

Sixty-two canneries now subscribe voluntarily to continuous government inspection and designate the quality of

their products by the labels. U. S. Grade A, U. S. Grade B, and U. S. Grade C. These packers have remained discreetly silent throughout the internal crossfire over grading in the Office of Price Administration.

• **Mandatory vs. Voluntary Grading**—The silence generally is not attributed to neutrality; rather to the canners' unwillingness to oppose a principle which they themselves practice. Technically, grade labelers could take sides in the current OPA disagreement without incurring penalty. They could, in other words, oppose mandatory grade labeling designed to accompany the price ceiling program without opposing the voluntary grade labeling under which they operate.


But this is a distinction that inspectors packers fear consumers might fail to make. And confusion with arbitrary grades, enforceable under wartime price control, would destroy the competitive advantage of the U. S. grade label which these 62 canners use and pay for. Obviously mandatory labeling would not bolster brand prestige as does the shield denoting Dept. of Agriculture inspection and quality guarantee.

• **Manpower Lacking**—And while Washington is concentrating manpower on facilities on the winning of a World War, it is not likely that inspection could be established in all of the country's more than 800 canneries. Under Sam buys by grade, and available inspectors are kept busy classifying food for government purchase.


Big canners oppose all grade labeling proposals on the argument that grades are not reliable guides to buying, principally because grades cannot measure the important factor of flavor. Advocates of grading, however, contend that the big-canner opposition stems from the desire to protect their heavily advertised reputations for only the highest quality products. Since, year after year, only 15% to 25% of the pack of canned fruits and vegetables could qualify for the U. S. Grade A label, it is obvious that not all of the big canners' head volume could be of top grade.

• **Grading Comes of Age**—Three years ago when two California packers, N. Schuckl & Co. and U. S. Product Co., voluntarily submitted products to A-B-C grading (BW—Apr. 12 '41), the canning trade was shocked. But this was only the first surprise. Since then the Dept. of Agriculture has put inspection on a permanent rather than an experimental basis. Reason: 62 companies with 78 plants now subscribe to continuous inspection. The three-year record of steady growth provides the most convincing evidence of the sales value of the grade label, backed by a government guarantee of purity. Inspection companies account for 7% to 8% of the industry numerically. On a volume basis their output is naturally less significant for none of them bats in the same league.

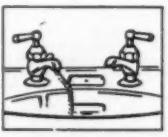
WHAT TYPE OF SUPPLY FITTINGS WOULD YOU LIKE TO HAVE?



☐ SEPARATE VALVE WITH CENTER SPOUT TO PROVIDE TEMPERED WATER.




☐ COMBINATION FITTING WITH FAUCET HANDLES AND SPOUT IN ONE UNIT PROVIDES TEMPERED WATER.




☐ SEPARATE FAUCETS PROVIDE INDIVIDUAL SUPPLY OF HOT AND COLD WATER.


WHAT KIND OF BASIN WOULD YOU PREFER?



☐ RECTANGULAR BASIN PROVIDES LARGE WASHING COMPARTMENT.



☐ D-SHAPED BASIN PROVIDES GENEROUS WASHING COMPARTMENT AND SPACIOUS AREA FOR TOILET ARTICLES.



☐ OVAL BASIN HAS SMALLER CAPACITY, DESIRABLE WHERE WATER CONSERVATION IS A FACTOR.

PLUMBING THE MARKET

To sample postwar tastes in plumbing fixtures, Chicago's Crane Co. is conducting a customers' question bee such as General Motors pioneered a decade ago (BW—Aug. 19 '33, p14). With an eight-page booklet, contain-

ing about 60 illustrated multiple-selection questions (above), Crane hopes to blueprint its future production by determining what will sell. Thus, Crane not only tailors its product to the market, but also develops a prospect file, for each book asks name, address, and home ownership status.



Looking for Opportunity, Mister?

... and what American isn't! For that's what we, as free people, have thrived on . . . the opportunity and privilege to work and worship and live as we want. Well, Mister, the greatest opportunity of all is here. The chance to preserve our precious heritage . . . the freedom and liberty for which our forefathers fought and bled and died.

Are we strong enough to work night and day, to forego pleasures and luxuries, to sacrifice until it actually hurts? Millions of Americans—our sons,

and husbands, and brothers—are offering their lives!

Personal sacrifices, harder work, and faster production of war materiel will speed Victory and save countless lives!

The Gulf South, like the rest of our great nation, is ready and anxious to make the necessary sacrifices. Its manpower, its rich resources, and all of its industrial might are dedicated to the greatest opportunity of all time . . . freeing the world of its ruthless dictators!

LEND TO DEFEND THE RIGHT TO BE FREE . . . BUY MORE BONDS!

The Gulf South

Working with All America for VICTORY

This Advertisement Published by

UNITED GAS PIPE LINE COMPANY

A Natural Gas transmission Company built in peacetime . . . now dedicated to serve wartime fuel requirements throughout the Gulf South.

FOR TEXAS, Mail received at: Beaumont, Dallas, Fort Worth, Houston, Longview, San Antonio and Wichita Falls. FOR LOUISIANA, Mail received at: Baton Rouge, Lake Charles, Monroe, New Orleans and Shreveport. FOR MISSISSIPPI, ALABAMA and FLORIDA, Mail received at: Jackson, Miss.

COPR. 1942, UNITED GAS PIPE LINE CO.



IN THE Atlantic IN St. Louis

the more war bonds you buy... the safer will be our supply lines to fighting fronts... so buy more!



the better you rest at night... the more efficient you'll be next day... so stop at



HOTEL McEnnox
EVERY ROOM AIR CONDITIONED NOISE PROOFED FROM 13.00

Beacon lights of business

MOORE Mapfacks
21 colors. Plain, numbered, lettered. All shapes and sizes. At stationery and map stores.
MOORE PUSH-PIN CO., PHILA., PA.

CHRYSLER DODGE *Chrysler Corporation* DE SOTO PLYMOUTH

NOW MAKING WAR PRODUCTS

DIVIDEND ON COMMON STOCK

The directors of Chrysler Corporation have declared a dividend of seventy-five cents (\$0.75) per share on the outstanding common stock, payable June 14, 1943, to stockholders of record at the close of business May 20, 1943.

B. E. HUTCHINSON
Chairman, Finance Committee

Turning the "Searchlight" on "Opportunities"



position wanted

• **INDUSTRIAL ADVERTISING MANAGER.** Many years large mechanical goods firm. Experienced publicity, advertising, public relations. Direct mail specialist. Married. Executive. 4H. Strayed to consumer goods. Wants return industrial products. Knows distribution. Glit edged references. Box 345.

wanted—pattern work

• **OLDEST ESTABLISHED** pattern and machine works on Long Island can take on additional wood and metal pattern work. Eppenbach, Inc., 4510 Vernon Blvd., Long Island City, N. Y.

selling

• **TOMORROW'S SALES PLANNED TODAY**—Industrial and construction products—metals, plastics, wood. George F. Weis Co., Sales Engineering 1151 So. Broadway, Los Angeles, Calif.

speed-up equipment

• **COLLATE** your printed or mimeographed sheets twice as fast, with less effort and space. Folder on request. John M. Low & Co., 223 W. Madison St., Chicago, Illinois.

"clues" information

"clues" ads are published as space is available, usually within two or three weeks of receipt. Closing date on publication issues, Thursday of preceding week. Rate: 60 cents a word; \$2.50 per line. Minimum \$3. Box number counts as 3 words. Address replies: c/o Business Week, 330 W. 42nd Street, New York City.

with Libby or California Packing. But they aren't all small fry either, some of them pack as much as two and a half million cases a year.

• **Uses of Descriptive Labeling**—In opposing grade labels, the powerful National Canners Assn. officially plugs descriptive labeling. It urges its members to use can wrappers and jar stickers that picture the product, give such information as size, weight, style of product, and number of servings per can.

U. S. Inspected Foods Educational Service—trade association handling public relations for canners that subscribe to the U. S. certified label—meets the N.C.A. argument by advocating the so-called X-ray label which guarantees quality by grade in addition to giving a complete description of the food.

• **Utility of Lower Grades**—Probably the biggest job confronting U. S. Inspected Foods Educational Service is to sell consumers on the fact that Grade B and Grade C do not indicate inferior merchandise, that they have a special economic utility and value in their own right. Official definitions are Grade A, fancy; Grade B, choice (fruits) or extra-standard (vegetables); Grade C, standard. Specifically, symmetrical, uniform, ripe whole tomatoes are labeled U. S. Grade A. Grade B tomatoes are canned in pieces, therefore need not be quite so well selected as to color, size, and matur-

ity as Grade A. Grade C tomatoes are canned as pulp, consequently vary ripeness, size, color, and all standards.

Products are graded according to standards established by the Dept. Agriculture by a numerical rating on scale of 100. Points measure relative importance of such factors as clarity of liquor, color, absence of defects, tenderness—all of which, grading advocates argue, have a bearing on flavor vegetables. In fruits, factors are color, uniformity of size and symmetry, absence of defects, and character of fruit.

• **What Inspection Means**—The U. S. continuous inspection shield is the consumer's guarantee that Grade C tomatoes purchased for making soup are packed under the same sanitary and chemical conditions as Grade A which cost several cents more and can be served whole. In the inspected factories U. S. Civil Service employees constantly watch plant and product to check standards of personnel, screening, light, ventilation, thermometers, code marking, laboratory records, cutting and sampling, cleaning, washing, and sorting.

The importance of inspection is the point most of the crusaders—both for and against grade labeling—fail to mention. Fifteen embattled consumer groups completely ignored it last month when the

Grade labeling or descriptive labeling? Schuckl & Co., which pioneered the use of U. S. grade labels, resolves the bitter controversy that has divided the canning trade for years by trying both. Label illustration shows the housewife just what the product looks like, while the back panel not only provides specific information about the contents but also tells the buyer about the other grades in the line. Grade A has a blue shield, Grade B is red, and Grade C is green.

PUNCH California TOMATOES

SELECTION INFORMATION

U.S. GRADE B

Size of can: Not weight: 1 lb. 12 oz.

Tomatoes must be of uniform size and shape. Style of pack: Whole or in part of large pieces. Cuts, vegetables and juice: 1/2 inch. Tomato savings approximately, plus juice 1/2 inch.

Prepared from ripe tomatoes of fairly good red color, packed in whole or in part of large pieces with normal tomato flavor.

USE

Large pieces or whole tomatoes for soups, stews, casseroles, in combination with meat, fish, fruit, sea food, eggs, creamed and omelets, and with other vegetables, plus, or less, as desired. The remaining juice may be used in soups, stews, casseroles, in combination with meat, fish, fruit, sea food, eggs, creamed and omelets, and with other vegetables, plus, or less, as desired.

PREPARATION

When open retain Vacuum Control by covering and placing under air refrigeration.

PUNCH TOMATOES ARE ALSO AVAILABLE FOR OTHER USES IN PACKED UNDER THE CONTINUOUS INSPECTION OF THE U. S. DEPARTMENT OF AGRICULTURE

By SCHUCKL & CO., INC., SAN FRANCISCO, CALIF.
MEMBER, U. S. INSPECTED FOODS EDUCATIONAL SERVICE

U.S. GRADE A U.S. GRADE B U.S. GRADE C

PUNCH California UNPEELED WHOLE APRICOTS IN HEAVY SYRUP

Produced by SCHUCKL & CO., INC. SAN FRANCISCO, CALIF.

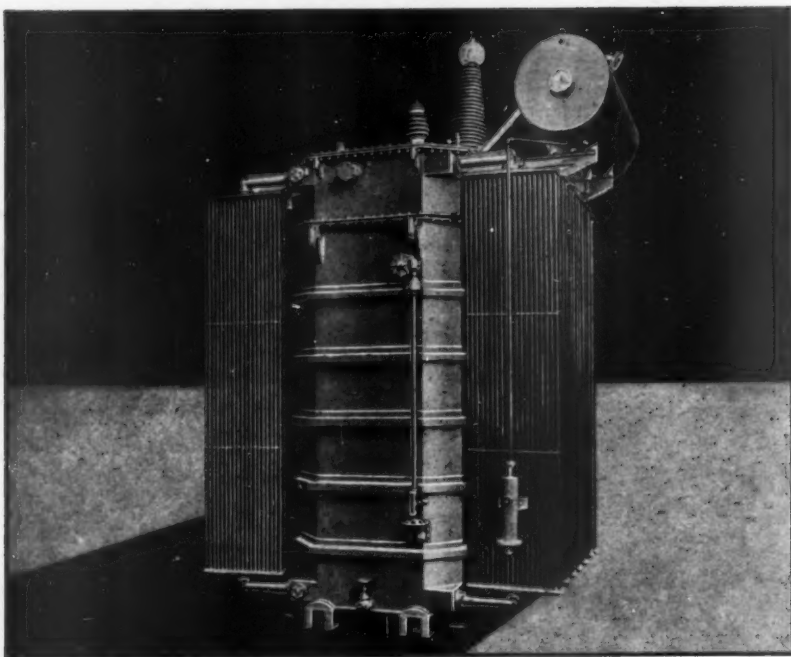
Under Continuous Inspection of the Agricultural Marketing Service of the U. S. Department of Agriculture.

PRODUCE OF U. S. A.

U. S. GRADE A (FRUIT) TWO GRADE B, CALLY CERTIFIED BY THE U. S. DEPARTMENT OF AGRICULTURE

Community prices do not mean identical prices. They do mean that each grocer in an area will have exactly

Business Week • May 15, 1943



SYNONYMOUS with QUALITY!

Wagner

P R O D U C T S

**reflect sound engineering
and modern manufacturing methods**

In army camps, in ordnance plants, in power plants, in factories, as in many other places, Wagner transformers demonstrate their excellence in quality. Ever since the company was founded in 1891, the name Wagner has been synonymous with quality.

This holds true not only for all types and sizes of power and distribution transformers and constant-current regulators made by Wagner, but also applies to all electric motors, fans, industrial hydraulic braking systems and other products making up the *complete* Wagner line.

If you need transformers, or other products made by Wagner, consult the nearest of Wagner's 29 branch offices, located in principal cities and manned by trained field engineers.

FOR VICTORY—BUY U. S. WAR BONDS and STAMPS

E43-B

Wagner Electric Corporation

ESTABLISHED 1891

6460 Plymouth Avenue, St. Louis, Mo., U. S. A.

ELECTRICAL AND AUTOMOTIVE PRODUCTS

the same ceiling as every other grade of the same size-class. There are four such classes:

- (1) Independent retailers with an annual volume of less than \$50,000.
- (2) Independents with a volume of \$50,000 to \$250,000.
- (3) Chain stores with a volume of more than \$250,000.
- (4) Any store with a volume of \$250,000 or more.

• **Temporary Arrangement**—While ceilings thus far have been published only for Class I stores (the smallest retailers with the highest prices), others will get their maximums in short order. Meantime, they are supposed to sell prices below the Class I quotations.

It is noteworthy that while OPA could have slapped dollar-and-cents ceilings on some 400 brands and items, less than 300 were priced in most areas. Reason: The other 100 were still selling below the old ceilings, so OPA didn't want to do anything that might help push them up to their legal limit.

• **Housewives' Help Needed**—If housewives police the new prices and if the courts expedite suits filed against violators, there is no question but that OPA has made a firm stride in price control. It may, in fact, knock 1% off the Bureau of Labor Statistics index of food prices.

On the other hand, there are still a couple of good-sized loopholes. For one thing, a flock of new brands may suddenly appear as an evasion. For another, professional policing is necessary to keep housewives from conspiring with grocers to violate the regulations. OPA's current professional police force of around 500 persons is far too small.

The Ultimate Test

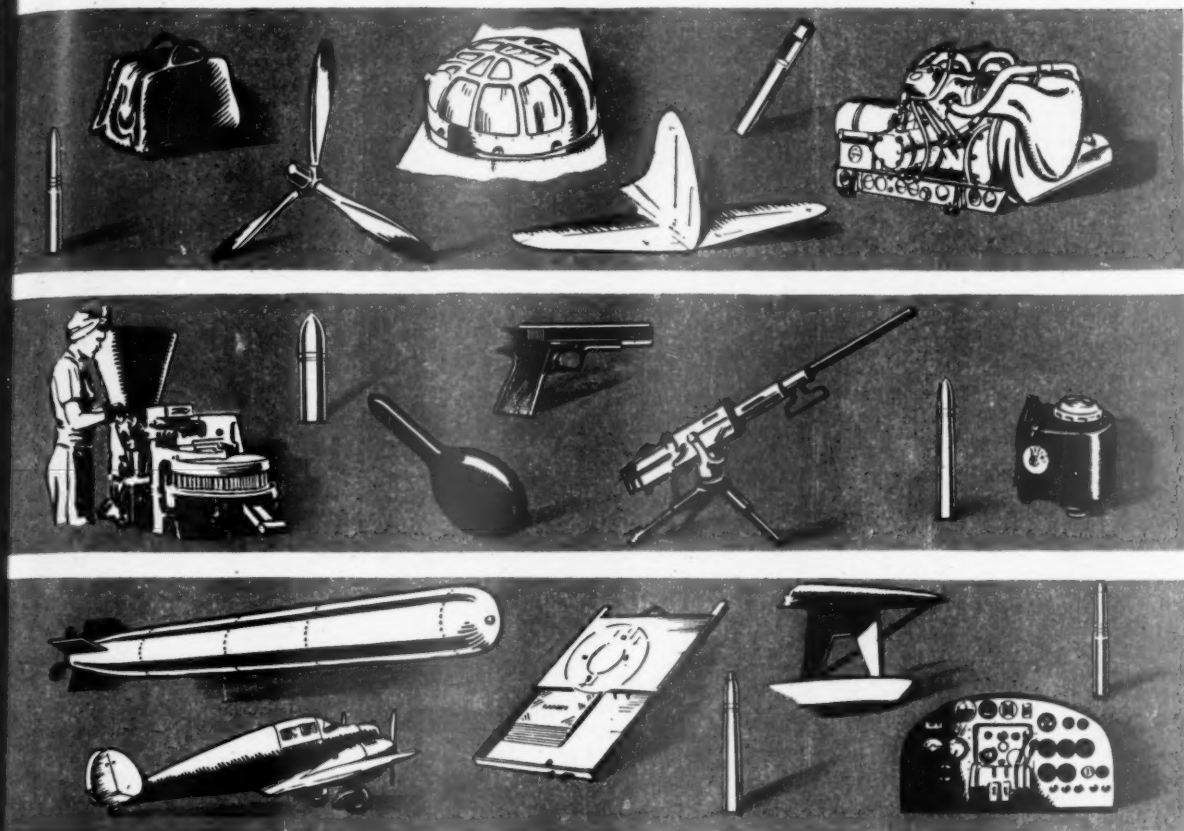
Stymied by all analyses, Castoria chemists took a dose of their own medicine, got ill, and ordered laxative of their own market; win government praise.

The bold public steps taken by the makers of Fletcher's Castoria to withdraw the product from the market when its use induced nausea (BW, May 8 '43, p8) seem to have ushered in a new era in the relationship between the drug industry and the federal Food and Drug Administration.

• **Reported Promptly to FDA**—Not too many years ago, almost any drug firm finding itself behind the eight ball did Sterling Drug, Inc., in the Castoria fiasco, would have moved heaven and earth to soft-pedal the "scandal" lest the FDA hear about it. But Sterling's Harold B. Thomas, vice-president in charge of the Centaur Division, was in Washington hammering on FDA's door within 24 hours after first reports.

Teamwork Speeds Production

Months ago, we teamed up with
a 23-state network of 1189 sub-contractors.
The result: mass production . . . months sooner.



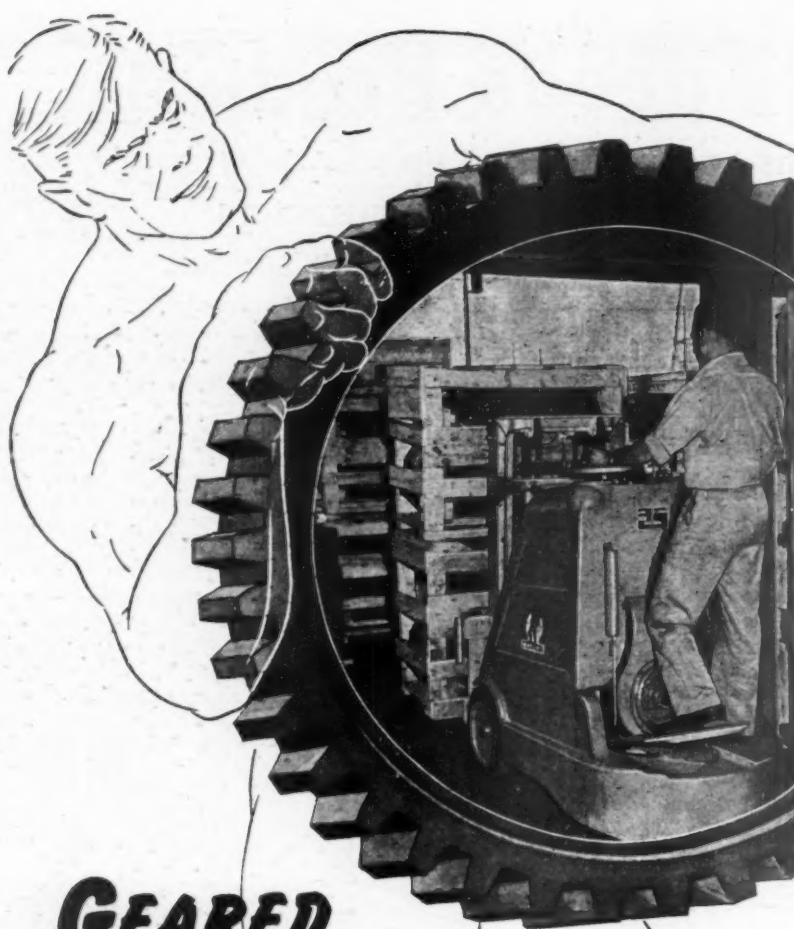
● These are not all the war products of Remington Rand and affiliated companies; there are others which we can not picture. But the ones we can show point out a significant fact: the same abilities required to make our extremely diversified lines of office equipment are being devoted today to the production of a wide variety of war materials. And the capacity of our production lines is tremendously increased by the loyal, enthusiastic co-operation of hundreds of sub-contractors scattered throughout the land. This is the picture of America today . . . factories and people everywhere teaming up to bring our men home sooner.

YOU'RE ON THE TEAM, TOO. PUT 10% OF EVERY DOLLAR INTO WAR BONDS!



Remington Rand

ON THE HOME FRONT we fight the war, too...by helping other war plants increase their production . . . by furnishing control systems and filing equipment to help *all* businessmen combat shortages of personnel and mountains of paper-work . . . by supplying the technical advice of experienced specialists skilled in all phases of accounting and record control. If increased office efficiency can help *your* business, we urge you to call our nearest office today.



GEARED for WARTIME SCHEDULES!

During this period of all-out-for-war production, most of our output is going into army warehouses, where Mobilift is helping to keep America's supply line open. However, a portion of our production is now available to essential industries—and we are looking forward to the time when our entire output of Mobilifts will again be ready to simplify America's materials handling problems. Plan now to improve your own inside transportation system.

MOBILIFT

Moves Materials like a Giant!

VAUGHAN MOTOR COMPANY ★ 835 S. E. Main Street, Portland, Oregon

that babies no longer were crying for Centaur Division, which manufactures and markets the soothing sirup laxative, began on Apr. 28 to reports of nausea and vomiting among children to whom the preparation was administered. The first reports were said to have come from two North Carolina physicians.

• **Personal Test**—When Centaur chemists reported they could find nothing unusual in the product, Joseph Boban, an official, took a dose—and became nauseated in 30 minutes. Then he made the chemists try it, with the same results.

Next day, Thomas rushed to Washington and told the whole story to Robert P. Herwick, head of FDA Drug Division. By the end of the week, a strongly worded telegram was dispatched by Centaur to all of its distributors and many retailers in the eastern states, recalling all outstanding bottles of the product. The mobilizing sales forces of the vast Sterling enterprises followed this up within 24 hours by personal contact with distributors.

• **Publicity Bombardment**—Since first reports of trouble came only from the eastern states, the original drive was concentrated on this area. Later it was broadened to include the whole country just to be on the safe side. The public was told about the situation in a general press release issued by the company on May 3 and followed up by radio announcements and paid newspaper advertising. The company offered to pay for the radio announcements, while the networks contributed the time as "public service."

Actually, the company believes that only a small percentage, maybe as low as 1%, of the product on the market May 1, was affected, but it recalled all bottles in the possession of consumers, retailers, and wholesalers. In addition, the plant was closed until the mystery could be unraveled.

• **Intensive Probe**—Sterling's combined research facilities, as well as investigators at New York University, two other private laboratories, and analysts of the Food and Drug Administration, were put to work on the project. Ten days of intensified, cooperative research failed to solve the mystery, but many theories have been advanced.

Tests failed to disclose any foreign ingredient. Samples of all batches of the product manufactured in recent months and samples of all ingredients going into these batches were made available to the investigators by Centaur's two-year-old Rahway (N. J.) plant.

• **Sugar Reduction**—The only change in formula in recent times is a reduction in the sugar content in line with OPA's sugar rationing regulations which give drug manufacturers only 70% of the sugar they used during corresponding quarters of 1941. But the sug-

ing for content was reduced in Canada's Cas-
 which several years ago without known
 fortune.

The most plausible theory so far is
 at the reduction in sugar plus some
 usual water situation at Rahway has
 caused an obscure reaction. Actually,
 the company twice distills all water,
 it investigators believe that some
 harmless and obscure bacteria might
 remain, which, when combined with
 the reduced sugar content, causes the
 product to begin to take effect in the
 stomach rather than in the intestines.
Company Praised—FDA officials have
 been lavish in their praise of Sterling's
 prompt, voluntary steps to protect the
 public health. The agency didn't even
 bother to institute a seizure campaign.

Clock Ceiling Set

OPA clamps \$1.65 lid on
new war clock to be made by
two firms and sold by six; price
includes average margins.

A retail ceiling price of \$1.65, ex-
 clusive of excise or sales tax, has been
 put on the new spring-wound war alarm
 clock whose production recently was
 authorized by WPB (BW-Apr.17'43,
 118). The ceiling for manufacturers is
 6¢ and for wholesalers \$1.10 f.o.b.
 shipping points. These ceilings allow
 average margins customary on compara-
 ble models prior to cessation of produc-
 tion, according to OPA.

For Six Manufacturers—The ceilings
 for manufacturers are provided specifi-
 cally for six firms which were actually
 engaged in the production and assem-
 bly of spring-wound alarm clocks prior
 to the inauguration of the War Pro-
 duction Board curtailment program.
 WPB is allocating materials to two of
 these firms for the production of 1,700,
 000 war clocks which all of them will
 sell to ease a national shortage.

These six firms are: William L. Gil-
 bert Clock Corp., Winsted, Conn.;
 Westclox Division of General Time
 Instrument Corp., LaSalle, Ill.; Water-
 bury Clock Co., Waterbury, Conn.;
 E. Ingraham Co., Bristol, Conn.; Lux
 Clock Mfg. Co., Waterbury, Conn.;
 and New Haven Clock Co., New
 Haven, Conn. The two firms producing
 at present are Gilbert and Westclox.

Must Bear Price Tag—Manufacturers
 are required to stamp upon or attach
 to each clock a statement plainly show-
 ing that the retail maximum price of
 the clock is \$1.65, exclusive of tax.

Each seller must notify purchasers
 for resale, at or prior to the first in-
 voice, of the maximum prices they may
 charge for resale of the clock. The
 notice may be given in any convenient
 form.

IN THE NEW DOUGLAS PLANT

**"Parts Bear Easily Under-
 standable Names"**

SAYS BUSINESS WEEK



Sure they do. Marking parts for assembly is
 standard practice in high-efficiency plants. So
 are informative tagging, labeling and box print-
 ing. They tell the other fellow what *it* is and
 what to do with *it*.

With high-speed, precision-built Markem Machines you
 can mark products directly, (paper, metal, plastics, glass,
 wood, leather, rubber, fabrics, etc.) or print tags, labels,
 boxes and roll stickers fast, easily and inexpensively in
 lots as few as five just like long run printed units.

Ask TODAY about Models KD6 and 125. They quickly and
 legibly apply variable details to pre-printed tags, labels and
 boxes; or take blank rolls of gummed or ungummed paper and
 produce complete labels or tags from this material. Provide
 color emphasis, too. Send for catalog B5.

You Made 'em - Now MARKEM!

TO PLANT OFFICIALS CONCERNED WITH INCREASING WAR PRODUCTION

SEND FOR YOUR COPY OF OUR NEW ILLUSTRATED CATALOG GIVING

**LATEST *Complete* INFORMATION
 ON PRECISION GAGES, FIXTURES,
 JIGS and DIES...**



We invite you to have this valuable
 handbook at your fingertips for ready
 reference on our entire line of Quality
 Precision Gages, including details about
 our COMPLETE GAGING SYSTEM
 FOR CARTRIDGE CASE INSPEC-
 TION. We believe you will find this
 catalog extremely helpful in your
 endeavor to expedite production of
 essential war materiel. Fill in
 the coupon below and

**MAIL
 TODAY**

**QUALITY
 TOOL & DIE CO.
 INDIANAPOLIS, INDIANA**

QUALITY TOOL & DIE CO.
 Noble & East Vermont St., Indianapolis, Ind.
 Gentlemen:

Please send me a copy of your new illustrat-
 ed catalog of Precision Gages, Jigs, Fixtures
 and Dies—Without obligation to me.

Firm Name.....

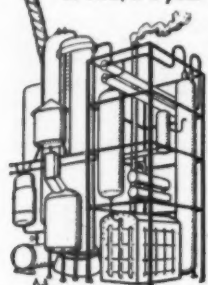
Address.....

Your Name.....Title.....



You can judge Frick Refrigeration by the company it keeps!

When such organizations as the Kaiser Co., U. S. War Department, Sheffield Farms, Monsanto Chemicals, Beech-Nut Packing, the Defense Plant Corp., Glenn L. Martin, and hundreds of others of similar importance have purchased large amounts of Frick Refrigeration in the last year or two, it's your proof that this equipment is in the best of company.



Goodyear, B. F. Goodrich, Firestone and U. S. Rubber have all purchased Frick Equipment for use in synthetic rubber plants.

And no wonder! Back of Frick Refrigerating, Ice-making and Air Conditioning Equipment stand 90 years' engineering experience; built into it are the latest improvements, including many patented features; its applications are so wide that practically every industry and business either use it or are directly influenced by it.

Frick Co.
DEPENDABLE REFRIGERATION SINCE 1882
WAYNESBORO, PENNA. U.S.A.



FINANCE

Dealers Fret

SEC is reported to have a new "full disclosure" rule in the works for over-the-counter market; another fight likely.

Rumors from Philadelphia, headquarters of the Securities and Exchange Commission, say that a new "full disclosure" rule for unlisted trading is in the works. Unless SEC has added a good deal of sweetening to the proposal it made last summer (BW—Aug. 8'43, p79), this is sure to set off another hot fight in the over-the-counter market.

• **It's an Old Issue**—Full disclosure—which means telling the customer exactly how much profit the dealer is making on a transaction—is one of the oldest and hardest fought issues in the securities business. Although various regulatory agencies have tried their hand at it, so far none has produced anything that the majority of dealers would swallow.

Last summer, SEC proposed a rule that would require dealers to tell customers the best independent bid-asked prices on the securities involved in any transaction. This brought a chorus of anguished howls from dealers and several warning growls from Congress. SEC let the subject die quietly, but obviously it hasn't forgotten. If Wall Street has its gossip straight, the new proposal will be the same rule in a new package.

• **Not Like Exchanges**—The difficulty in writing rules for unlisted trading arises from the nature of the market. Unlisted trading is fundamentally different from the buying and selling that take place on organized exchanges. Any agency that attempts to regulate it runs into a collection of problems that never come up in transactions on a stock exchange.

The auction market of a stock exchange works by matching up formal bids and offers. Deals are handled by brokers who receive standard commissions. All trading takes place on the floor of the exchange; prices are advertised on the tape. Hence there is rarely any question about the profit a broker makes on a deal or about the information that a customer should receive.

• **A Retailing Business**—In unlisted trading, however, there is no auction. Transactions are made by face-to-face negotiations between buyer and seller or their agents. Dealers may act either as principals, buying and selling for their own account just like any mer-

chant, or as agents, filling orders given them by their customers. Transactions take place anywhere that buyer and seller come together.

Most over-the-counter houses take positions in various securities, assuming the risk of price changes. In the case of inactive issues, one or two houses may make the market. Hence, in dealing with customers, the over-the-counter man often acts as a principal and expects to make a profit commensurate with the risk. But if he had to tell the customer the amount of that profit, it would look like a robber.

• **Comparative Volume**—Because the organized markets get more publicity, it's easy to under-estimate the volume of business that goes on off-the-board. Actually, unlisted trading is a bigger and much more diversified proposition than on-board buying and selling. The value of securities traded on an unlisted basis is around \$95,000,000,000 at present, which compares with \$100,000,000,000 for listed issues. In addition, U. S. Government issues, now around \$100,000,000,000, change hands in a vastly larger volume over-the-counter than on the floors of the exchanges.

Handling the off-board trade are some 6,700 registered firms, which compares with 600 or so member firms of the New York Stock Exchange. Many houses with seats on an exchange also



MONEY HAS WINGS

Payday is an old Army custom that troops like to observe no matter where they are. Aleutian outposts now get their payrolls by plane, which solves half the problem for soldiers who want to blow themselves to a big evening. The other half is finding something to spend the money on.

the unlisted market, sometimes
most of their business there.

Self-Regulation—Regulating the loosely
collection of dealers are two agen-
s, the SEC and the National Assn.
Securities Dealers. The ultimate
authority rests with the SEC, but the
N.A.S.D. is supposed to provide its
300 members with the machinery for
self-regulation. Set up under the Ma-
iney Act of 1938, it prescribes a code
fair conduct, inspects the books of
members, holds hearings on complaints,
and imposes various penalties on mem-
bers violating its regulations—one of
which is a fair price for the customer.
However, a vociferous section of the
counter market doesn't take kindly to
policing of any sort, regardless of
whether it comes from within or with-
out. A good many dealers insist that
when they act as principals, they are
entitled to make any profit they can.
Hence, they hold out against any at-
tempt to set up rules limiting profits
or establishing a confidential relation
between the dealer and his customers.

Some Fight Any Rule—If anyone
could draw up a workable rule covering
all disclosure, most firms probably
would accept it to head off SEC regu-
lation, but as yet no suggestion has met
the objections dealers raise. A rule
such as the one SEC proposed last sum-
mer would give the customer all the
information he needs to protect him-
self, but it would also penalize honest
dealers who handle inactive securities.
Where a single dealer makes the mar-
ket for an issue, there isn't any way he
can get independent quotations. More-
over, where a dealer takes a heavy risk
in carrying a security, he is entitled to
a bigger profit, but explaining all this
to a suspicious customer is a job no
securities man wants to take on.

In spite of these difficulties, many
over-the-counter houses think they
could do something on their own ac-
count before the SEC takes over. Last
winter, the New York dealers assn. sug-
gested a program involving a flat limita-
tion on profits and wider publicity on
price quotations compiled by the
N.A.S.D. Although the N.A.S.D. let
the idea die without taking action, the
chances are it will crop up again before
long.

Acting on Their Own—Several indi-
vidual houses also are considering taking
things into their own hands. One of
the largest of these, J. Arthur Warner
& Co., has just shifted all its dealings
with customers to a commission basis.
Its trading department continues to
take positions in securities but never
deals direct with private investors. All
orders are filled outside the firm by the
retail department, which charges a flat
commission instead of taking a profit.
Although dealers are watching eagerly
to see how Warner makes out, few
show any signs of following his example,

ON A MEDITERRANEAN DOCK



THE report "arrived safely" is
the best evidence of substantial
support for an aggressive army wait-
ing for materials and supplies.

It means that the drives for more
and faster production are getting
results, *where they really count.*

Safe arrival is dependent on
planned packing as well as on men,
trucks, freight cars and ships.

Acme engineers, co-operating with
Government officials and manufac-
turers are assuring adequate pro-
tection for the overland and overseas
shipment of practically every type
of war product.

The Acme Steelstrap
Process also is used effec-
tively to conserve car-
loading space and to re-

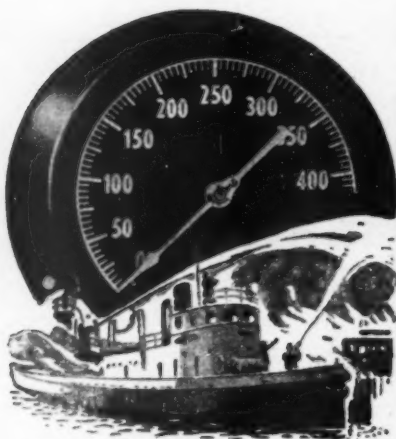
duce tare weight to a minimum.
And, meeting all Federal Strapping
Specifications, Acme Steelstrap ap-
plied with Acme Tools provides a
faster, more economical way to move
parts and products from the produc-
tion fronts to the fighting fronts.
If you are producing war materials,
an Acme engineer will be glad to
help you plan for their faster ship-
ment and safe arrival. Contact the
Acme office nearest you for com-
plete information on the best ways to
pack overland or overseas shipments.



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interesting 12 page pub-
lication showing many
unusual strapping applica-
tions. Ask your secretary
to write for your copy.*

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THE MARKETS

Now that Wall Street can look back on the Treasury's great loan drive, a thing that impresses it is the very high level of trading volume in stocks even while \$18,500,000,000 of investment funds were being drained out of the money market. This makes it pretty clear that the bull market is running under its own power and isn't just riding the coattails of the government's easy money policy.

• **Who Bought the Bonds**—Traders also found a good deal to think about in the breakdown of sales, by type of purchaser, which the Treasury released this week. A comparison of the first drive last December with the one just concluded stacks up like this (figures in millions):

	First Drive	Second Drive
Individuals, partnerships, etc.	\$1,589	\$3,290
Insurance companies	1,677	2,408
Savings banks	609	1,195
Eleemosynary institutions	53	117
State & local govts.	194	503
Other corporations	2,213	5,038
Banking sources	5,072	5,048
Dealers & brokers	881	544
Govt. agencies & trust funds	263	391
All other	386	...

Total all investors.....\$12,937 \$18,533

Securities salesmen, who staged a celebration when they saw the total, sobered down as they looked over the tabulation. Only \$3,290,000,000, or about 18% of the total, came from individual subscribers. Of that, only \$1,473,000,000 represented sales of Series E (baby) bonds.

• **Payments From Income**—Series E war bonds are the only ones that represent a direct cut in consumers' purchasing power. Most of them go to small investors who make payment out of current income. Other government issues are designed primarily for large buyers and

institutions. Hence, they mop up savings without cutting spendable income.

To a large extent, purchases made by savings banks and insurance companies come indirectly from the savings of individuals, but here again, the effect on the monetary situation is neutral rather than deflationary. Thus the Treasury avoids inflationary borrowing from commercial banks but takes no additional spending money out of consumers' hands.

• **Inflation Box Score**—Sales to commercial banks, of course, are directly inflationary, since they add to the total of available spending power. Thus the box score on the April drive works out about like this: deflationary sales \$1,473,000,000, inflationary sales \$5,048,000,000, neutral \$12,012,000,000.

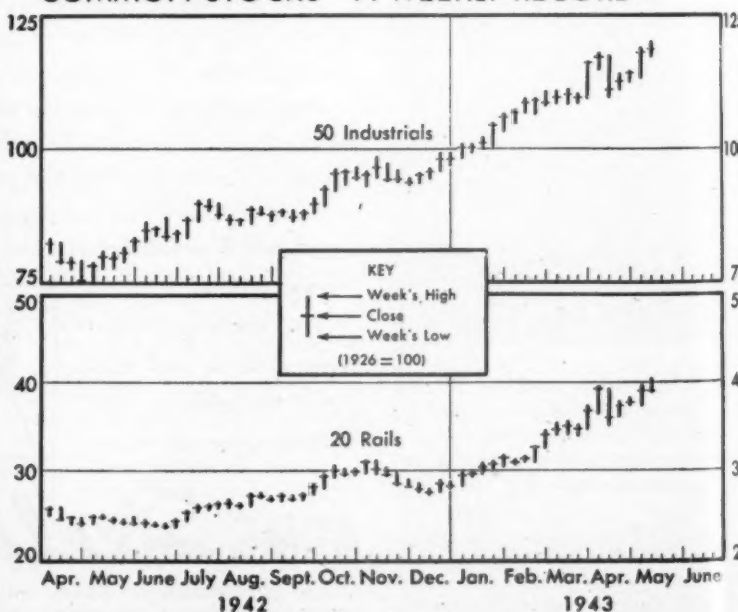
On the brighter side is the fact that both deflationary and neutral sales showed a big jump percentage-wise over December. For Series E war bonds, the April total was by far the highest on record. Last December, sales were only \$745,562,000, and in January, the best month in the past year, they were only \$811,704,000.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	118.7	118.0	111.1	79.9
Railroad	39.2	39.2	36.0	24.8
Utility	47.6	47.1	44.2	29.7
Bonds				
Industrial	116.3	116.1	115.8	107.5
Railroad	100.2	99.6	96.7	87.7
Utility	113.4	113.6	113.3	102.0
U. S. Govt.	111.7	111.0	110.3	110.3

Data: Standard & Poor's Corp. except for government bonds which are from the Federal Reserve Bank of New York.

COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp.

Let Freedom Ring Twice - FOR YOUR MONEY!



**A \$1,000
WAR BOND
PAYS FOR:**

NOW

6 sets of
signal flags
for a destroyer

150 life rings

8 seven-
person life
floats

7 300-lb.
depth charges

24 4-inch
compasses

AFTER THE WAR

Commercial
aviation
training for
your boy

An extra room
for your house

A musical
career for
your daughter

A fur coat
for your wife

An extra car
for the family

**KEEP BUYING
WAR BONDS!**

Freedom from the "subs" is what will lick the Axis now. We must get our men and materials across. They'll talk to the enemy in the only language he understands—force! They'll tell him at the point of a gun: "We want our children to grow up free, saying 'H'ya!' instead of 'Heil!'" Who'll "take them over"? Destroyers and depth bombs, faster ships and costly but effective anti-submarine devices. Who'll pay for it? Your War Bonds will give Uncle Sam the money to buy these things right now—when he needs your help. And when peace comes, you'll get...



Freedom from the "ruhs" that keep you from achieving what you want. You can educate your growing children. New products will make your home a better place to live in, and your plant a better place to work in. What will you use for money? That's where freedom rings the *second* time for you. You'll get your War Bond money back from Uncle Sam just when you need it!

"Swords into ploughshares." When we as a company get back into our civilian overalls again, the things we've learned from making war materials will be turned your way. We've been getting "know how" for 67 years—but it's been coming a lot faster lately—and you'll reap the benefit!

The WILSON Corporation
370 LEXINGTON AVENUE, NEW YORK CITY
ESTABLISHED 1878
BUILDERS OF ROLLING AND OVERHEAD DOORS IN STEEL AND WOOD

at least for the present. Some doubt that it would be possible to keep the retail department and the trading department separate in a deal that involves an inactive issue. In a case where a single firm "makes" the market, it would be practically impossible. Moreover, dealers are reluctant to confine themselves to a commission business when they see a chance to make a profit by holding securities for appreciation.

How to Recover

Capital expenditures for war plants no longer useful now are to be repaid on a certificate of non-necessity.

Back in 1940—under the old national defense program—Congress provided that war contractors who made a capital outlay for special emergency facilities would get their money back in 60 months. According to this procedure, the contractor obtained from the Secretary of War or Navy a "certificate of necessity" enabling him to recoup the costs of land, buildings, machinery, etc., by deductions from income taxes. Thousands of such certificates have been issued.

New Type of Hardship—Now it develops that the 60-month amortization period is too long for some contractors. Because of changes in the composition of military production (as, for instance, the recent de-emphasis on tanks), certain plants and equipment are apt to become useless to the war effort after being amortized only to the extent of 30% or 40%. So this month, a procedure will be issued for an immediate, complete settlement of such special cases.

Under the pending formula, the contractor will trade in his certificate of necessity for a certificate of non-necessity. In most cases, this new privilege will specify that the contractor can deduct the total remaining unamortized costs from his next tax payment, or—if necessary—get a refund on past payments. In other instances (depending on what sort of arrangement the contractor has with the U. S.), he may get a lump sum from the government, with the stipulation that this payment is tax free.

Trouble Encountered—Hitches in the development of a workable formula to this end have been numerous. One major stumbling block is a definition of the proof a contractor must submit that his facilities are unnecessary. Army and Navy want the contractor to show that his equipment is absolutely not adaptable to any other kind of war production, but to spell this out in a regulation is not very easy. By June 1, however,

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the regulation should be in such shape that it can be issued.

Incidentally, several mistaken notions about the coming non-necessity certificates have been kicking around Washington lately. One is that they will be issued to cover any kind of land, machinery, or plant used in the war effort at some time or another. This is not true. Non-necessity papers will go only to contractors who originally had a certificate of necessity.

● **Conversion Not a Factor**—Another off-the-beam idea is that the non-necessity prerogative will be denied when facilities are convertible to civilian use. Fact is that emergency facilities are viewed only in a military light. They'll be amortized whether or not they later have a peacetime utility.

DIVESTMENT

North American Co., \$850,000,000 public utility holding company, this week advanced another step in satisfying Securities and Exchange Commission demands for integration and simplification under the holding company law when it declared a dividend on its common stock payable in shares of the Pacific Gas & Electric Co. The dividend was one share of P.G.&E. for each 100 of North American.

Previously, the holding company had almost entirely eliminated its 12% holding (carried at \$30,000,000) in Detroit Edison by distributing one share of Edison for each 50 of North American in eight successive payments. Its P.G.&E. holding, amounting to almost 33% of the common stock, was carried at nearly \$65,000,000 at the close of last year.

● The SEC's order that North American pare itself down to properties owned by its subsidiary, Union Electric of Missouri, was taken to court on the grounds that the holding company law's death sentence is unconstitutional.

IT'S ALL OFFICIAL

The New York Stock Exchange's election went off smooth as silk. The "official" slate selected by the nominating committee for governors, headed by John A. Coleman as chairman (BW-Apr.17'43,p113), was elected as anticipated on Monday.

About the only point of interest in the election was whether two independently nominated candidates for the board would slip in, and they didn't. The two were Radcliffe Swinnerton and E. Burd Grubb. Grubb, a former N.Y.S.E. governor and one-time president of the New York Curb Exchange, had a fairish following some years ago as a prospective "reform" candidate for Big Board president.

Coleman succeeds Robert L. Stott as chairman of the board of governors.

THE TRADING POST

Another Farmer Speaks Up

B. C. Young, of Bellingham, Wash., writes in reply to E. W. Lowe, whose criticism of the congressional farm bloc recently appeared on this page:

In your Apr. 10 issue, on page 107, you publish a letter from Mr. E. W. Lowe of the Edwal Laboratories, Chicago, in which Mr. Lowe asks questions of the farm bloc that reflect on the war effort and patriotism of farmers in general. These questions are not based on facts and show ignorance of the issues involved.

I am a farmer. I have never aspired to be held a political office. As a farmer, I take interest in the men who speak for the farmers and am somewhat familiar with the recent legislation affecting farm interests. The farm bloc speaks for the farmers and its members seem to be trying to protect farmers' interests. If history is of any value, farmers are as patriotic as any class of citizens. Being patriotic, they want to do their part in furnishing food for our forces in the field and others depending on that service.

Mr. Lowe's question "Can you fight a war and get rich at it too?" should not be asked of the farmers. They do not know much about getting rich. With the first call to enlist, many farmer boys enlisted. Why? First, patriotic duty; second, soldiers pay with board and clothing was more attractive in many cases than farm drudgery. The government has discarded the law of supply and demand and was paying farmers for not using land for certain crops. Those getting more acreage than their quota were penalized or fined. Farming was unprofitable. Farmers flocked to the factories and munitions plants. Too late it was discovered that the most important department of war industry, that of producing food, was left to old men, women, and cripples. The result was food scarcity.

Mr. Lowe's reference to "damned industrialists" is pertinent. He explains that he left school eight years ago, worked overtime, and received sustenance from his wife's relatives during the time he was building himself into an industrialist. I accord honor to any man who can now sit in a swivel chair as president of a manufacturing company and write letters about a gang, as he states of "selfish, loud-mouthed fellows," representing farmers who are honestly trying to produce. He evidently has what it takes.

But he should use a little overtime and study the subject he writes about. I know a couple of boys who left school about the same time. They are helping to make airplanes and doing a good job, own their own homes, and do not work much overtime. They both paid income tax on over \$5,000. Did you ever see a farmer do that well? Nearly every farmer I know puts in overtime but seldom gets paid for it.

The government has seen fit to place ceilings on commodities. These ceilings are supposed to stop inflation. But do they? We have inflation now. One of the chief

causes of inflation is the fact that farmers are producing less food than they should. This is explained by the depletion of farm labor already mentioned. Inadequate ceilings on food products cause rather than cure inflation; they induce black markets and complications. Wage ceilings came after wages were sky-high, while food ceilings were based on prices back in 1933 plus subsidies the government saw fit to extend to farmers in distressed times.

* * *

Farmers do not want subsidies. They want parity that takes the cost of farm labor into consideration, equalizing labor ceilings in both groups. Had this been done at the beginning of hostilities, farmers and the farm bloc would be bending all their efforts toward winning the war. Now they are fighting to correct errors in policy, which were none of their making and which are disrupting the unity of loyal citizens in both groups. In the Bankhead bill, they ask for elimination of subsidies and equalization of wages that will keep farm labor on the farm. As matters stand, thousands of dairy cows have been slaughtered. Why? There was nobody to milk them and feed them.

It is well known that farmers eat a lot of food. High cost of living affects them as well as others. The farming industry is specialized. Gardening is not as general as it used to be. Farmers buy large quantities of canned goods, meats, and vegetables. Dairymen even buy butter. On the West Coast, much of the produce, fruit, eggs, and other foods, were grown by Japanese. They are now in concentration camps, entirely out of production. We farmers feel the effects of high cost of living as do other branches of industry.

* * *

A stupendous slander on the farmer is the sentence in Mr. Lowe's letter "Why should everybody in the country be patriotic except the farmer?" Since the Declaration of Independence was signed, the farmer has been the backbone of democracy and his patriotism has been unquestioned. Give the farmers a decent chance and they will feed the armed forces, the civilians, the Army and Navy, the air and sea forces, the Waacs, the Waves, the foreign dependents—but they cannot do it without suitable labor and it will not help to reflect on the farmer's patriotism.

The present shortage of beef is not the fault of farmers. It is the result of unfavorable ceilings which resulted in forcing unfinished beef on the market instead of feeding it to maturity. Drafting farm labor depleted farm production. Too late the error was corrected. High wages took every available worker from the farms. The damaging shortage of farm labor will continue so long as farmers are not able to pay going wages for the labor they require, in competition with labor prices in other industries. We have the land; we have the equipment; we have the will to produce; but until the labor situation is corrected the food shortage will grow worse. It may be that the farm bloc, after all, could be right. W.C.

V LOANS

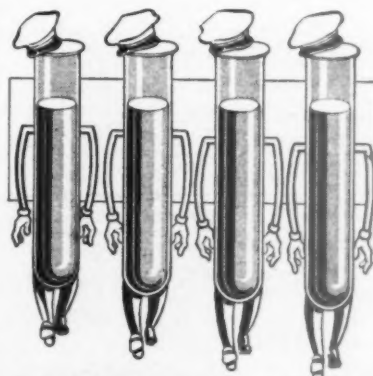
and other borrowings by nationally known concerns, are solicited by the Florida National Group of banks ... aggregate deposits above \$150,000,000.00; aggregate loan limit in excess of \$1,000,000.00.

Why not distribute your loans in the areas which will in the post-war days offer you substantial business?

FLORIDA NATIONAL BANK AND TRUST COMPANY

at Miami

Alfred I. duPont Building
Capital & Surplus, \$4,300,000.00



SOLDIERS OF SCIENCE in the battle of Production!

Wood gluing problems meet their master in FRANKLIN laboratories . . . speeding the flow of war materials to master the axis. Use of FRANKLIN liquid hide glue in ready-to-use form, may remove the stumbling block in your operations.

FREE SAMPLE OF FRANKLIN GLUE to plants making fair test. Use business letterhead.

THE FRANKLIN GLUE CO.
Columbus, O.



THE TREND

HOT MONEY AND BLACK MARKETS

The new crisis in inflation control once more confronts us with a series of familiar tasks—to halt the price-wage spiral, to hold the cost-of-living line, to sterilize excess purchasing power. But this time, something new has been added. Violations and circumventions of price control—call them, for simplicity if not precision, black markets—now plague the nation as proved fact, not just as an economist's pipedream. And, it is this new element in the sensitive inflation arena that now threatens to upset the whole system of stabilization controls.

• **There is no mystery why this is so.** Perhaps we haven't done enough to dampen the upsurge of monetary economic returns. Probably we haven't instituted the best procedures to enforce ceilings. But certainly—and basically—we haven't eliminated the surplus buying power which presses toward a demand-supply price equilibrium above the level we wish to hold.

Having been burnt once, it is time we learned to fear the hot money that makes the price pot boil—and to base our campaign on the economist's axiom that, however much they may help, all the insulatory measures of rationing, ceilings, and enforcement cannot, by themselves alone, save us from a scalding.

We must ask about hot money not only whether we have not done too little too late to cool it off—and return the obvious answer—but also whether, even now, we are not planning too little too late.

• **Statisticians figure that Americans currently are receiving income at the rate of 140 billion dollars a year; personal taxes are siphoning off perhaps 15 billions, leaving some \$3 of income disposable for spending on every \$2 worth of purchasable goods and services.** Naturally, not all of that 50% excess of income over goods is dangerous; people will voluntarily save part of it. But, the part that surges into spending—hot money—has been enough to pull prices through the ceilings into the black market range.

To be sure, President Roosevelt asked Congress in his budget message for 16 billion dollars more “taxes or savings.” That amounts to 40% of current excess income—more than enough, perhaps, to freeze the present pool of hot money. But, we haven't instituted that 16 billion levy yet—and won't for several months.

• **Meanwhile, we shall have more hot money.** That is the basic, inescapable trend of a war economy. Income payments are continually increasing, as the nation's manpower shifts into more essential and better-paying jobs, works longer hours. The supply of civilian goods and services is constantly being reduced by the drain of men and materials to war and by the liquidation of past accumulations of inventory.

To put dimensions on the problem, the income rate will expand 10 to 15 billions by the year-end, and the

annual flow of goods and services will contract five to ten billions. Since only a small part of that income increase will yield itself in tax collections, the over-all estimates indicate that, after another six or nine months, we shall have just as much hot money as we have now—even if, in the meantime, we start raising 16 billions more taxes and savings.

• **Beyond this are factors we can't fully assess.** The new tax-savings measures will cut most deeply into the lower and middle income brackets; this and a 20% withholding tax will tighten control over the income that seeks spending outlets most. On the other hand, whereas the purchasable supply of goods and services has held to peak levels until now, from now on, it will markedly contract. So far, hot money has come from consumers wanting to improve living standards; from now on it will come from consumers trying to maintain living standards. And, people resist curtailment much more forcefully than they attempt enhancement.

Add in a few more of these intangibles and conclude that we can't strike an exact balance among them—any more than we could a year ago, when we first instituted price control. Actually, we don't even know just how much hot money there is now, though a figure of 10 to 15 billions is many economists' guess. Nor—in the very nature of the case—can we measure the black markets which that hot money has produced.

• **But we know now that the inflationary gap is more than the private concern of price administrators conceived as theory-minded eagle-eyes, cocked for compliance with every single official ceiling.** And that its effects in the way of price violations do more than upset the justice-conscious protectors of stable-income, lower-third pensioners, soldiers' wives, and fixed-wage earners. For, it is the black markets that have precipitated a first-class political-economic issue which labor unions, for one group, are now forced to play to the hilt.

We chanced hot money once, and now we have an inflation crisis to pay. The odds would favor playing the game safely now—by quick action on a new tax bill, by provision for a bigger than 16-billion hot money cooler for six to nine months from now.

Unfortunately, though we must rely on it for the long run, the fundamental approach cannot settle the immediate issue. The test today is whether power politics shows subsidies and a wage stop to be feasible now; and whether practical economics proves simplified ceilings and rollbacks to be effective even for a time.

(This is the first of a series of Trends on the problems that business management must weight in the new “inflation crisis.” Others will appear in subsequent issues.)

The Editors of Business Week

Business Week • May 15, 1943

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